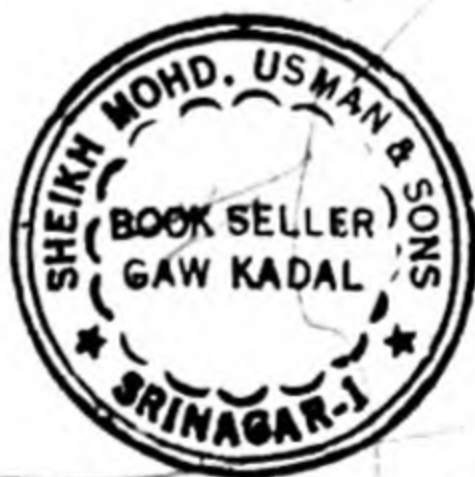


GEOGRAPHY OF THE
JAMMU & KASHMIR STATE

Geography of the **JAMMU & KASHMIR STATE**

PANDIT ANAND KOUL

Up-dated & Introduction
by
P.N.K. BAMZAI



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Introduction

From time immemorial the picturesque Valley of Kashmir is known all over the world for the charm and beauty of its grottos, waterfalls, lush-green meadows and for its exhilarating climate. But what was not generally known till the beginning of the present century, was the importance of the State as a strategic point in the "Heart of Asia". Much less did the world know of its awe-inspiring mountains, its vast glaciers, the river systems which originate from these and its interesting geological formations.

It was with a view to present a comprehensive picture of these and other features of this unique Indian State that the author, Pandit Anand Koul, published in 1913 an authentic book entitled the "Geography of the Jammu and Kashmir State". The book had an importance of its own. It was the first publication in English by a son of the soil. The history, legends, folklore and the social background of the people were a part of his life. Official duty had taken him to every nook and corner of the State. All this lent a personal touch of authenticity to the book. Written for the general reader it avoided the use of technical terms associated with the word "Geography," but was nevertheless packed with useful and factual information. A revised and enlarged edition of the book came out in 1925. It has remained out of print since then, but a copy is very much sought after.

This edition is being published to meet the demand for this book both in and outside the State. However, though the physical features of the State remain intact, there have taken place during the past five decades appreciable changes in its boundaries, administrative divisions, industries, means of transport and communications. An attempt has been made to bring the book factually up-to-date. A few geographical aspects as, for instance, the interesting geological structures, are being dealt with in greater detail ; as also the changes in boundaries, population, etc. But it has been felt to retain the original version of the book to give the edition a historical background with a peep into the people's life half a century ago. Wherever necessary, footnotes have been added to update facts and figures.

Area and Population

The Jammu and Kashmir State is area-wise the second largest state in the republic of India. However its original area of 222,236 sq. kms. has undergone considerable change as a result of the Pakistan aggression in 1947-48. When the cease-fire was declared at the instance of the United Nations Organisation in January 1949, 78,932 sq. kms. of the State's territory remained under the illegal occupation of Pakistan. The districts of Astore, Gilgit and Gilgit Leased Area and a major part of Mirpur and Muzaffarabad got detached. The Ladakh district lost the tehsils of Skardu and a part of Kargil. The tehsils of Bagh and Palandari and a number of villages of Poonch Jagir met the same fate.

Another major change occurred when the People's Republic of China launched a massive attack on India in October 1962 and forcibly occupied 37,555 sq. kms. of Indian territory in Ladakh. Later Pakistan illegally handed over 5,180 sq. kms. of the State's territory to China.

The splitting up of the State and the consequent fragmentation of some of the old districts and tehsils, necessitated the reconstitution of its administrative units. Another important reason for the birth of new districts and tehsils was the unwieldly size of some of the old units as, for instance, Anantnag

in Kashmir and Udhampur in Jammu. The new units were so constituted that more attention could be paid to developmental programmes, particularly in the less developed ones.

The whole State was divided into three Divisions,—Jammu, Kashmir and Ladakh. The Jammu Division has six districts, Kashmir three and Ladakh one.

The census operations of 1961 and 1971 were conducted for the areas on the Indian side of the cease-fire line. According to the census of 1971, the population of the Indian side of the line was 4,616,632 of whom there were 2,458,315 males and 2,158,317, females. The decennial population growth rate (1961-71) was +29.65 per cent (India as a whole 24.57 per cent.)

Jammu and Kashmir State has 0.84 per cent of the total population of India and ranks 16th among the 29 states, Union Territories and other areas of the country.

The number of urban areas is 45 and of villages 6,749. There are 666,753 occupied residential houses in the state.

Of the total population, the Jammu Division claims 45 per cent, Kashmir 53 per cent and Ladakh 2 per cent.

The level of literacy in the State has gone up from 11.03 per cent in 1961 to 18.30 per cent in 1971. It is gratifying to note that the percentage of increase registered by Jammu and Kashmir State in 1971 over what it was in 1961 is 65.91 which is the highest recorded for any other State of India during the decade, the percentage increase registered for the country as a whole being 22.14.

District-wise Analysis

No other State in India except Jammu and Kashmir can illustrate better how physical and locational aspects in a particular region affect its population growth and density. For, there are within its boundaries areas with marked variations in altitude, climate, rainfall, irrigational facilities and soil composition. A closer study of these features in each district is both interesting and rewarding.

Jammu District: This district may rightly be termed as

the gateway of the State lying as it does on the nearest railhead for the State as a whole, as well as on the National Highway from Pathankot to Uri. Jammu city is the district headquarters as well as the winter capital of the State. All the towns of the district are well connected by road transport.

The district comprises four tehsils—Jammu, Samba, Ranbirsinghpura and Akhnur. Its area is 3,233.8 sq. kms. with a population of 730,884 souls of whom 381,119 are males and 349,765 females. The density per sq. km. is 236. The decennial population growth rate has gone up from +9.15 per cent in 1951-61 to +40.35 per cent in 1961-71.

Like the plains of the Punjab, Jammu experiences hot climate. The maximum temperatures recorded in the district in 1969 stood at 45.2°C. The annual rainfall is generally inadequate. It was recorded at 114.83 cms. in 1969. The deficiency in rainfall is, however, offset by the Chenab and Tawi rivers which feed the Ranbir and other canals, irrigating substantial acreage of cultivable land.

The soils of the Jammu region show great heterogeneity. The plains of Jammu and Kathua are of alluvial nature. They are low in Nitrogen and medium in Phosphates and Potash.

In the Kandi areas of Samba, Jammu and Akhnur tehsils, only dry crops like wheat and maize are cultivated. Wheat and coarse paddy are grown on irrigated patches. Good quality rice grows in the fertile tehsil of Ranbirsinghpura.

Samba is known for its hand printed chintzes. Akhnur is the collecting centre for timber floated on the Chenab from forests in the Udhampur and Doda districts.

The literacy rate has gone up from 18.51 per cent in 1961 to 30.32 per cent in 1971.

Kathua District: Kathua comprises four tehsils—Kathua, Hiranagar, Basohli and Bilawar. Its area is 2651.2 sq. kms. and population 274,165. Of this 142,220 are males and 131,945 females. The density per sq. km. is 105. The decennial growth rate in population shows an upward trend—from +7.73 per cent in 1951-61 to +32.17 per cent in 1961-71.

Major part of the district is Kandi. The soil is medium in Nitrogen, Phosphate and Potash. There is lot of soil erosion

in the Kandi areas and cultivation is possible only on small patches cleared of pebbles and stones. The crops raised on these patches are mainly wheat and maize. On the plain land in the Kathua tehsil coarse rice and wheat are cultivated. Irrigation is by the waters of the Ujh, Upper Ravi and Basantar rivers.

Kathua lies on the National Highway from Pathankot to Uri and also on the railway line to Jammu. As such because of its proximity to the Punjab State, a number of industries have come up, particularly the ceramic and paint.

The literacy rate has grown from 11.52 per cent in 1961 to 21.68 per cent in 1971.

Poonch District: The name for this district has been retained from the old Poonch Jagir a sizeable chunk of which has fallen on the Pakistan side of the cease-fire line. To the portion remaining on the Indian side were added the areas of Haveli, Mendhar and Nowshera which form its three tehsils. The area of the new district is 1,658 sq. kms. and its population 170,598 of whom 89,295 are males and 81,303 females. The density per sq. km. is 95. The decennial growth rate in population shows an upward trend. It was +4.78 per cent in 1951-61 and +10.40 in 1961-71.

The percentage of literates to total population of the district was 8.47 in 1961 and 14.45 in 1971.

The district is mostly hilly and cultivation is conducted on terraces. Rainfall is plentiful, more than 160.0 cms annually.

Rajauri District: This district has only two tehsils—Rajauri and Buddhal. with an area of 2681 sq. kms. The population is 220,730 of whom 115,777 are male and 104,953 female. The density of population per sq. km. is 88. The decennial population growth in 1951-61 was -3.52 per cent which went up to +28.68 per cent in 1961-71. This remarkable growth is due to wholesale murder of the entire population of Rajauri town by the Pakistani aggressors in 1947, and its rehabilitation with refugees after its liberation by the Indian troops. The literacy rate which was 7.37 per cent 1961 has gone upto 14.01 per cent in 1971.

Udhampur District: This district comprises the tehsils of Udhampur, Ramnagar, Reasi and Gulabgarh. It falls in the region of the Outer Hills lying somewhat to the south of the Pir Panjal range which separates the region of Jammu from Kashmir. The average height is between 2000 ft. to 4000 ft. from the sea level.

The area of the district is 4,484.9 sq. kms. Most of it is hilly and cultivation of crops is done mainly on terraces on the hill-sides. This area is the favourite haunt of Gujjars and Bakarwals who along with their herds of sheep, goat and cattle move here from the Valley during winter. Maize is extensively cultivated.

The total population of the district is 339,008 of whom 177,371 are males and 161,637 females. The density of population per sq. km. is 75. The decennial growth rate has risen from +9.18 per cent in 1951-61 to +32.34 per cent in 1961-71.

The holy shrine of Vaishno Devi situated above Katra town, attracts over three lakh pilgrims annually. This gives a boost to the economy of the district. Milk and milk products form a major source of income to a large proportion of the people. The district abounds in both coniferous and broad-leaved forests. Udhampur town has acquired importance being on the Pathankot-Uri National Highway. It is also an important military cantonment and is expanding fast.

The literacy rate has grown from 13.70 per cent in 1961 to 15.42 per cent in 1971.

Doda District: Doda forms the second largest district (area-wise) of the State, the first being Ladakh. Its area is 11,344.7 sq. kms. comprising four tehsils—Ramban, Doda, Kishtwar and Bhadrawah. The total population is 341,858 of whom there are 180,437 males and 161,421 females. The density per sq. km. is 29 and the decennial growth has gone up from +14.52 per cent in 1951-61 to +30.25 per cent in 1961-71.

The district covers what is known as the Outer Hill region. Its altitude ranges between 2000 ft. to 4000 ft. from the sea-level. The Chenab flows through this area. Except the fertile valleys formed by the river and its tributaries, cultivation is scarce, scattered and is carried on small patches. The soil is medium in Nitrogen, Phosphate and Potash, but rich in

organic matter and heavy in texture. Hence the region is rich in forests.

The literacy rate of 8.69 per cent in 1961 has gone up to 13.80 per cent in 1971.

Srinagar District: This district was formed after Independence by adding to the old Srinagar tehsil the entire area of the old Badgam tehsil. The whole area has been constituted into five tehsils—Srinagar, Badgam, Ganderbal, Berua and Chaudura. Srinagar city is the district headquarters and the summer capital of the State. The Jhelum and its tributaries are the main source of irrigation. Badgam, Berua and Chaudura have large tracts of karewa land.

The total area of the district is 3,121 sq. kms. The population is 826,820 of which 446,697 are males and 380,123 females. The density per sq. km. is 276. The decennial population growth has gone up from +12.55 per cent in 1951-61 to +27.41 per cent in 1961-71.

The entire district is affluent. Most of the industries of the Valley are located here. Srinagar city with its hotels, house-boats and Shikaras and shopping centres receives a tremendous inflow of tourists from all over the world. They make Srinagar as their base from where they fan out to various health resorts in side valleys and mountain meadows. The Dal lake and the Mughal Gardens are great tourist attractions. Srinagar has an excellent airport handling a number of incoming and outgoing daily flights to Delhi, Amritsar, Jammu and Chandigarh. An international airport capable of handling airbus traffic is under construction. Being in the centre of the Valley, all the bus routes from different towns and villages converge on Srinagar.

Rice is extensively cultivated though on the karewa land wheat and rapeseed are also grown. The soil is alluvial, the new alluvial being renewed and enriched every year by the silt of the streams. The old alluvial lies above the banks of the Jhelum river extending as far as the karewas and yields excellent dry crops. The maximum temperature in the Valley rarely goes above 95°F and the minimum is as low as 25°F. The average rainfall in the Valley varies between 38.0 cms. and

76.0 cms. annually and the average snowfall in Srinagar is about 243.0 cms. per annum.

The people of this district are making rapid progress both on the material and cultural fields. The literacy rate has gone up from 14.50 per cent in 1961 to 21.54 per cent in 1971.

Anantnag District: Except for the detachment of the old Srinagar tehsil to form the nucleus of the Srinagar District, Anantnag district has not suffered from any change in its boundaries. Nor was it subjected to the inroads of the Pakistan aggressors. It has now five tehsils—Anantnag, Kulgam, Pulwama, Pahalgam and Shopyan. The area is 5,430.9 sq. kms. The population according to the 1971 census is 830,455 of whom 448,122 are males and 382,333 females. The density per sq. km. is 154. The decennial population growth has risen from +10.84 in 1951-61 to +27.94 per cent in 1961-71.

Anantnag district may rightly be termed as the rice bowl of the Valley. There is plenty of irrigation provided by the river Jhelum and its main tributaries—the Veshau, Ranbiara and the Lidder. The soil comprises mostly alluvial, both new and old. The karewas in the Pulwama, Kulgam and Shopyan tehsils grow apples in abundance. Wheat is also grown on higher karewa land.

Pahalgam is a popular tourist resort and the starting base for the pilgrimage to the holy cave of Amarnath. Anantnag town, the district headquarters, abounds in springs and is the centre of manufacture of beautiful woollen floorings called *Gubba*.

The percentage of literates in the district has gone up from 8.04 in 1961 to 14.31 in 1971.

Baramulla District: This district has expanded considerably from what it was before Independence. What remained on the Indian side of the cease-fire line of the old Uri and Karnah tehsils has been added to this district. Another tehsil, Sonawari, detached from the old Srinagar tehsil, has been added to it. It now comprises nine tehsils—Baramulla, Sopore, Handwara, Uri, Gulmarg, Bandipora, Kupwara, Karnah and Sonawari.

The total area of the district is 6,568.2 sq. kms. with a population of 775,657. Of this 418,694 are males and 356,963

females. The density per sq. km. is 105. The decennial growth in population has gone up from +9.20 in 1951-61 to +28.99 in 1961-71.

Baramulla town, the headquarters of the district, used to be the gateway to the Valley, being at the head of the Jhelum Valley Road. With the closure of this road after partition it lost this distinction. The district has, however, been compensated by acquiring strategic importance from being on the cease-fire line on the Uri, Karnah and Bandipore side. Sopore and Handwara tehsils are the home of extensive coniferous forests and willow plantations. They also produce apples and other varieties of fruit. The main crop grown is paddy. Areas bordering the Wular lake—the largest fresh-water lake in Asia—are highly fertile. Those on the banks of the Jhelum having alluvial soil yield rich crops. The irrigation is provided by the Jhelum which flows placidly through the middle of the district and also by the Pohru river in Handwara and Sopore tehsils.

Gulmarg has gained world wide fame for its exquisite golf course and winter sports. It is a popular health resort and swarms with tourists during the summer months.

The literacy rate of the district has increased from 7.93 per cent in 1961 to 12.57 per cent in 1971.

Ladakh District: Ladakh forms the northern-most district of the State and area-wise is the largest, covering 97,782.4 sq. kms. including the area under illegal occupation of China. It has a population of 105,100 of whom 52,929 are males and 52,072 females. The density of population is 2.5 per sq. km. The decennial population growth has gone from +7.66 per cent in 1951-61 to +18.44 per cent in 1961-71.

Ladakh district has three tehsils—Leh, Kargil and Zaskar. The majority of people depend on agriculture but very small patches located in the valleys can be cultivated. Most of the land is arid, sandy and inert both physically and chemically, with low moisture holding capacity. The temperature of the region ranges from 31°C in summer to near arctic cold in winter. Rainfall is scanty, the annual average being a mere 5.0 cms.

Leh, the capital of the district, has always been an important

centre of trade. Caravans carrying precious goods from Central Asian markets to those in India and vice versa passed through Leh from time immemorial. With the closure of this route to Central Asia, Ladakh suffered an economic setback. It has however recently gained strategic importance following the Chinese attack. A network of roads has been built in the area and Leh has been connected to Srinagar by a motorable road. The area has become a tourist attraction too, thanks to the old Buddhist monasteries housing numerous works of art and literature. Apart from this, various developmental projects have been launched by the State government. Despite the handicaps of nature Ladakh is now on the threshold of prosperity and modernity. Its percentage of literacy has gone up from 8.31 in 1961 to 13.50 in 1971.

Constitutional Development

The constitutional fabric of the Jammu and Kashmir State has undergone a complete revolution since the last edition of this book was published in 1925. From the autocratic rule of the Maharajas under British Protection, the State has now a democratic constitution framed by a Constituent Assembly elected through universal adult franchise. The State enjoys a special status in the Union of India guaranteed by Section 370 of the Indian Constitution.

The change was brought about by an intensive agitation by the people against the autocratic rule of the Maharaja. A year before the death of Maharaja Pratap Singh, the British Government had restored to him full powers. To run the administration of the State he was, however, "advised" to set up a Council of Ministers holding portfolios allotted by the Maharaja.

During the forty long years of Maharaja Pratap Singh's rule education was modernised. Several schools and two colleges—one in Srinagar and another in Jammu—were established. Hospitals and dispensaries were opened. The Valley was linked with the rest of the country by two cart roads—one between Srinagar and Rawalpindi and another between Srinagar and Jammu.

With the spread of education and faster communication bet-

ween the State and rest of India, there began a ferment among the people and they became conscious of their economic and political stagnation.

Towards the end of his reign, this discontent surfaced with political demands voiced by a few leaders in the State. They were no doubt influenced by the freedom movement launched by the Indian National Congress under the leadership of Mahatma Gandhi. But the abortive agitation was ruthlessly suppressed by the Maharaja who, however, passed away in 1925.

His successor, Maharaja Hari Singh, made an attempt to retrieve the situation with a few minor reforms. The Council of Ministers was reconstituted. There were now only four members instead of six. They were designated as Revenue Member and Army Minister, Finance and Police Member, Home and Law Member, and Member for Commerce and Industries. The Members were appointed by, and held office till the pleasure of, the Maharaja.

A notable reform was the constitution of a High Court of Judicature in March 1928. It comprised of a Chief Justice and two or more Judges whom the Maharaja might "from time to time think fit to appoint and who held office till His Highness' pleasure". This was the highest court of civil and criminal appeal.

But these and a few more minor reforms could not make any headway towards grant of responsible government to the people of the State. The political and economic situation was deteriorating fast and it was not, therefore, difficult for Sheikh Mohammad Abdullah and his small band of devoted workers to launch a mass movement against the Maharaja's autocratic rule. This was met with force—wholesale arrests, firings by the police and military and levy of punitive fines. But ultimately the Maharaja had to yield and set up a legislative assembly with limited legislative but no executive powers.

This did not satisfy the leaders and the movement for a democratic set-up gained momentum with the formation in 1938 of the All Jammu and Kashmir National Conference. It launched the famous 'Quit Kashmir' agitation in 1946 for transfer of power to the people.

The movement was a sequel to the Quit India agitation laun-

ched in 1942 by the Indian National Congress under the leadership of Mahatma Gandhi. Both the agitations had much in common and so had the Congress and the National Conference. Ultimately with the hard blows administered to the Imperial citadel by the people of India, the British hold on the country began to shake and they had to yield to the popular demand for independence. The British announced they would withdraw from the Indian sub-continent by August 15, 1947 when India would be free. But a price had to be paid—the sub-continent was partitioned into India and Pakistan. Simultaneously the British Paramountcy over Princely India came to an end and the Princes were given the option of joining either India or Pakistan depending on their geographical position.

Sheikh Abdullah's agitation against the Maharaja's autocratic rule was on the verge of success, when in October 1947 an armed attack from the newly formed Pakistan was launched on the defenceless people of the State to force its outright annexation. The people realised that this would soon put an end to the hopes they cherished. The Working Committee of the National Conference decided that the future of the State lay with India, approached the Government of India for help and wholeheartedly supported the accession of the State to the Indian Union.

Simultaneously the Maharaja appointed Sheikh Mohammad Abdullah, as the Head of Emergency Administration. This galvanized the people to solidly stand against the onslaughts of the aggressor. The history of the valiant deeds of the Kashmiris as well as the personnel of the Indian armed forces in fighting the invader, is common knowledge. Ultimately, a cease-fire was brought about with the good offices of the United Nations.

The Emergency Council had been replaced in March 1948 by a Popular Interim Government under the Chief Ministership of Sheikh Abdullah. A year later in June 1949, Maharaja Hari Singh abdicated in favour of his son, who became the constitutional head of state. The rule of the Maharaja thus came to an end in the State.

When following the cease-fire in 1949, Pakistan refused to honour international agreements to vacate its aggression, the people of the State decided to set up a Constituent Assembly

to be elected on the basis of universal adult franchise. The Assembly ratified the accession of the State, abolished the monarchical system of Government and framed a democratic constitution guaranteeing to every individual freedom of thought, religion, speech and occupation.

At present the government of the state is in the hands of the Chief Minister Sheikh Mohammad Abdullah who commands a majority in the Assembly. He is assisted by his Council of Ministers.

Thanks to the Five-year Plans the State has made rapid progress on social, economic and cultural fronts along with the people of the rest of the country.

Geological Formations

The geological characteristics of the State have been the object of extensive field studies from 1883 when Mr. R. Lydekkar produced his famous *Memoir*. He was followed by Middlemiss, Hayden, Burrard, De Terra, Wadia and others. Lydekkar has divided the geological structures of the entire State into four groups, namely the *Karewa* (alluvial), the *Tertiary*, the *Panjal* and the *Zaskar*.

He adopted the local in preference to the European names to classify rocks and the epochs they belong to. He has given cogent reasons for having followed this course. "Though", he says, "the general relative order of the succession of the organic forms has been in the main the same, it cannot be strictly considered that one Himalayan formation is the exact equivalent of its European namesake. Thus since in the Kashmir Valley no break has been detected between strata containing fossils, characteristic of the lower carboniferous of Europe, and the overlying and underlying strata which have respectively been referred to the silurian and the trias, it is quite evident that these cannot exactly correspond to the European formation after which they are named. They must rather collectively correspond to the whole of the silurian, devonian, upper and lower carboniferous, permian, and the trias of Europe."

The *Karewa* system is known after the flat-topped elevated plateaus lying all along the foot of the mountains surrounding

the Kashmir valley. These are chiefly formed of alluvial or lacustrine material. They belong to pre-historic and Pleistocene epochs.

The *Tertiary* system is prominent in Jammu, Kashmir, Ladakh and Gilgit. It consists mostly limestone, compact quartzite, calcareous slate or shale. In the Kashmir valley these rocks are generally underlain by massive amygdaloidal and other traps which frequently pass insensibly into the fossiliferous beds. It is probable these may really be of carboniferous age.

The tertiary rocks, however, predominate in the outer and lower ranges of the Himalayas. In the Kashmir valley they show some local peculiarities. In the upper Indus basin of Ladakh the tertiaries appear at some places to the north of the central crystalline axis.

The *Panjal* system derives its name from the Pir Panjal range which forms the outer boundary of the Kashmir valley extending eastwards from Hazara to beyond the river Jhelum in Kashmir. The *Panjal* system denotes all the rocks below the lower carboniferous and above metamorphics. These rocks with which the Pir Panjal range abounds consist mainly of dark slates, sandstones, quartzites, conglomerates and volcanic rocks. The European equivalents are Silurian and Cambrian.

The *Zaskar* system plays the next important part in the geology of the State. The designation *Zaskar* is derived from the Zaskar range which includes the whole of the eastern division from Spiti and Lahol $32^{\circ}17'$ North Latitude to the lofty Karakoram mountains in the north.

The *Zaskar* system denotes Mesozoic and Carboniferous rocks of the Archaean age. Its correlation with the European names Cretaceous, Jura, Trias, and Carboniferous may be regarded only in the most general sense. The crystalline complex forming the basement is of pre-Cambrian origin. All the subsequent geological formations rest on this basement. The crystalline development is extensive in the Zaskar range and in Gilgit, Baltistan and Ladakh. Kazi Nag is a continuation of this range and so is the area of Kishtwar in the Middle Himalayas.

The *Zaskar* system in the State has a diversity of mineral composition. These are mostly garnet, microline and tour-

maline. All over Ladakh and as far as Yarkand cretaceous fossils are found in abundance.

An interesting feature of the geological formations in the valley of Kashmir is the intimate connection between the *Panjal* and *Zanskar* system. The eastern boundary of the Zanskar rocks in the Valley runs across the western side of the upper Tral valley, thence cutting again on the northern side of the peak above Avantipura. Along this boundary line the characteristic carboniferous fossils are to be found in great abundance.

The next development of Zanskar rocks occurs in the Lidder valley at Pahalgam and again lower down half-way between Pahalgam and Anantnag. These rocks gradually pass downwards into a great mass of amygdaloidal traps of the *Panjal* system. Below Aishmuqam there is once more a series of the sedimentary *Panjal* rocks which to the south are inverted upon rocks of the *Zanskar* system of Anantnag. Towards the south-west the rocks of the *Zanskar* system extend as far as the northern flanks of the Pir Panjal range at Banihal.

On the opposite side of the Valley, three small patches of Zanskar rocks occur in the neighbourhood of the Wular lake. The small patches of such rocks lead on to the larger mass at Bandipura. At the extreme northwestern end the Zanskar rocks are met with at Trehgam in the Lolab valley.

Near the mouth of the Sind valley these rocks consist of pale-blue banded limestones. To the south of the Manasbal lake near Ganderbal the Zanskar rocks consist mainly of pure white thick-bedded dolomite limestones.

Underlying the Zanskar rocks in the neighbourhood of Srinagar and Manasbal, the amygdaloidal rocks of the Pir Panjal attain a great development. These rocks form almost the whole of Hari Parvat and Shankaracharya hills in Srinagar.

The mode of occurrence of the Zanskar rocks in the Kashmir valley leads to the conclusion that the Valley is formed on the line of synclinal axis of newer palaeozoic and mesozoic rocks, the original symmetry of which has been partially destroyed by faulting or other movements. It is probable that the area now covered by alluvial and Karewa deposits is mainly underlain by the rocks of the *Zanskar* system.

Evidence of Igneous Action: In palaeozoic and again in eocene times there is abundant evidence that igneous or volcanic agencies were actually at work in the Kashmir Himalayas, as is proved by the outpouring of vast quantities of volcanic rocks. Remains of volcanoes themselves have not, however, been hitherto detected among any of the volcanic rocks, and none of the latter are known to have erupted since the eocene period. The persistence of subterranean thermal action is, however, indicated by the prevalence of numerous springs some of which are of relatively large size and show evidence of having formerly been still larger. The earthquakes, some of them severe and devastating, have been of frequent occurrence, in Kashmir.

Glaciation: Mr. Lydekker gives facts which show that the glaciers of the Kashmir Himalaya were formerly of vastly greater proportions than they are at present, although the existing ones include the second largest in the world. He points out that glaciers existed at levels and in districts where there are none at present.

A glacier 56 kms. long can be seen from the K2. In this region it is the largest glacier and feeds the eastern course of the river Shigar which flows through Askole. Glaciers are a permanent feature in Rendu, north-west of Skardu. This elongated area in the high mountains is glaciated and presents characteristic features of ice action. Traces of glaciation are also found between the Shyok and the river Indus.

On the Pir Panjal range Mr. Drew has recorded that at heights where mountain tarns are numerous, there are abundant and unequivocal signs of former glaciation ; both in the form of rock-groovings and polishings, moraines and scratched stones. On the Kashmir side of the range the numerous small valleys running parallel with the strike of the rocks, and known by the local name of *margs*, are generally surrounded by rounded masses of detrital matter, which are probably of glacial origin.

In the Sind valley, on the north side of Kashmir valley, Mr. Drew has observed a well-marked *roche moutannee* near the village of Kulam at an elevation of about 6,500 feet above the sea level or 1500 feet above Srinagar. Other similar traces of extinct glaciers has been observed near the same place. Higher

up the Sind valley at and in the neighbourhood of Sonamarg at an elevation of 9,000 feet, there are undulating valleys which are entirely made up of old moraines. Small glaciers are now found at Sonamarg at a level of some 2,000 feet above these old moraines—the nearest glaciers from the roadside anywhere in the world.

Origin of Kashmir Valley

Among the many interesting geological facts connected with the Kashmir valley, none are of greater interest than those which support or refute the tradition that Kashmir was once covered by the waters of a vast lake.

The Valley is distinctly basin-shaped. It has a length of about eighty-four and a width varying from twenty to twenty-five miles. The lowest point in the valley has an elevation of 5,200 feet, and the mean elevation is 6,000 feet above the sea. The lowest (Banihal) pass in the Pir Panjal range, forming its outer boundary, is 3,000 feet above the level of the valley.

In its course, the river Jhelum flows through a plain of low level recent alluvium. The width of this plain varies from two to fifteen miles. There is no doubt that this alluvium has been formed by the river in flood. It is chiefly composed of loam and clay, and it would be difficult to distinguish it from the deposits now forming in the lakes of the valley, though the latter may be more distinctly stratified.

On the borders of this great plain of recent alluvium, or forming islands within it, there occur extensive elevated plateaus of alluvial or lacustrine material which occupy a great portion of the valley. To these is applied the local name of *karewa*. They are divided from each other by ravines of from 100 to 300 feet in depth. Occasionally they are surrounded altogether by lower ground, but more generally they connect on to some of the mountains that bound the valley.

Karewas, and their dividing ravines, occupy a width varying from eight to sixteen miles, along the south-western side of the valley, for a length of about fifty miles, from near Shopyan to Baramulla. Beyond Sopore again, the north-western end of the valley is mostly *karewa* ground. The *karewas* adjoining the

mountains have their surfaces inclined from the latter with decreasing slopes. On the south-eastern side of the valley, the karewas reach upwards to an elevation of about 6,500 feet, or 1,300 feet above the lowest plain of the river alluvium.

The flat-topped karewas always consist of horizontal beds. A characteristic section of a portion of a karewa shows beds of coarse sand, soft-brown sand, hard but fine-grained sand, blue sandy clay, gravel and conglomerates. The coarse sand is occasionally hardened to stone. In some places there occurs a fine impalpable blue sand which may have been formed by the grinding action of glaciers on silicious rocks.

The sloping karewas along the flanks of the Pir Panjal range form a continuous series. In the neighbourhood of Baramulla these beds are composed of yellowish clay, sands, gravel and conglomerates. Godwin Austin estimates the thickness of these beds at upwards of 1,400 feet and obtained from them many species of land and fresh-water shells, all apparently of living forms, together with plant remains and minute fish scales.

A section across the strike of these beds towards the centre of the valley, shows that as the distance from the Pir Panjal range increases, the dip of the beds gradually lessens until it is scarcely perceptible. At the same time the blue clays and conglomerates disappear and give place to the brown loamy clays and sands of the flat-topped karewas of the centre of the valley. There does not seem to be the least sign of unconformity between any of the beds of the series. They all belong to one continuous formation, the lower beds of which are tilted while the higher beds are undisturbed. The lower tilted beds may be called the "lower karewas" and the undisturbed the "upper karewas".

In what manner were the karewa deposits formed? From the great similarity in the petrological character of the lower karewas to the higher Siwaliks of the Outer Hills, it is probable that the two series have been deposited in an analogous manner. In the case of the Siwaliks it has been proved that these beds are not of lacustrine origin, but have been laid down by the action of rivers, torrents and rains. They may conveniently be designated as "wash deposits".

With regard to the upper karewas, it seems difficult to imagine

how a series of fine clayey and sandy deposits perfectly horizontal, and extending across a wide and open river valley, could have been accumulated without the aid of a dam lower down the valley by which its waters were ponded back. Accordingly the only explanation of the mode of formation of the upper karewas that presents itself is that Kashmir was formerly occupied by a vast lake, of which the existing lakes are remnants. Mr. Drew estimates that at one period of its existence this old lake must have reached a level of nearly 2,000 feet above the present level of the valley.

The question as to the nature of the barrier which dammed this old lake cannot be determined with certainty, until it is finally decided whether the lower karewas of Baramulla are true lacustrine, or "wash deposits". If they are the former, the old lake must have continued below the Baramulla ridge. But if, as seems probably the case, they are the latter, this ridge may have formed the boundary of the lake.

With regard to the age of the karewas, their considerable geological age is indicated by the tilting which their lower beds have undergone, and by the amount of denudation which they have suffered, as well as by their relations to the low level alluvium of the Jhelum. The lower karewas bear a striking resemblance to the topmost Siwaliks of the Outer Hills, which are likewise tilted and have a similar north-westerly strike. It seems therefore highly probable that the same disturbance may have acted on the upper Siwaliks and the lower karewas of Kashmir. Hence the age of the latter must be either lower pleistocene, or the very highest pliocene, whichever the topmost Siwaliks may be. The upper karewas may belong to some part of the pleistocene period.

Climate

The situation and physiography of the State are mostly responsible for the varying climatic conditions in its three regions—the Outer Plains and the Outer Hill of Jammu, the Valley of Kashmir and the Frontier regions of Ladakh and Gilgit. The variations in temperature and rainfall are related to their altitude. Jammu, where the average altitude is 1,000 feet, experi-

ences tropical heat and the climatic conditions are just like those of the plains of the Punjab. The Valley with its average altitude of 6,000 feet has a mean temperature varying from 16°F in winter to 92°F in summer. The Ladakh and Gilgit region is entirely mountainous with an altitude varying from 12,000 feet to over 25,000 feet. The upper reaches of this region have hence a semi-arctic climate.

Climatically the Outer Plain and the Outer Hills of Jammu can be grouped into one region. Its total annual rainfall is 41.4 inches which gradually increases towards the north. The hot season, as in the Punjab, begins in the middle of March and lasts till the end of June when the summer rains begin. These last till the end of September.

In the Middle Mountains which enclose the valleys of Doda and Kishtwar, the climatic conditions vary from place to place in accordance with their elevations. Kishtwar experiences an extremely rigorous and long winter with a short rise in temperature in summer.

The Valley has a totally different climate. Enclosed by lofty mountain ranges its seasons are marked by sudden changes. It attracts the Western precipitation in winter mostly in the form of snow which covers the Valley and the surrounding hills for the months of winter—December to March. January is the coldest month with a mean temperature of 29.1°F. The spring when the snow begins to melt, is mostly wet; and the summer—middle of May to end of August—humid and warm. August is the warmest month in the Valley with a mean temperature of 74.1°F. However, it is breezy and pleasant in the side valleys and its many mountain meadows.

The Pir Panjal range which forms its boundary on the south and west is 50 to 70 miles in breadth and 15,000 feet high. This seems to catch the tail of the south-west monsoons of India and there is hence a negligible rainfall in summer. But if unfortunately the monsoons cross the mountain barrier in sufficient quantity, the Valley suffers from serious floods. The warm rain melts the snow on the mountain peaks and floods the Jhelum and its tributaries causing havoc to the standing rice crop, buildings and bridges.

Autumn—October and November—is dry and bracing with the maximum hours of sunshine.

The highland ranges prevent the Western precipitation which is responsible for the winter snowfall in the Valley, from crossing over to Ladakh and Gilgit region. Leh, for example, has a rainfall of only 92.6 milimetres compared with 1,115 milimetres of Jammu. The high altitude gives to the frontier region a semi-arctic climate with the cold strong winds, intense sunshine and rapid evaporation. The town of Leh nestles under the hills north of the valley at a distance of some four miles from the river, up a long gentle, gravelly slope. The atmosphere of the Leh valley is remarkably transparent and the heat of the sun is very great. Water has been made to boil by simply exposing it to the sun in a small bottle blackened on the outside. Owing to the diminished atmospheric pressure at the high altitude of Leh, this would take place at about 192°F or 20°F below the normal boiling-point at the sea level.

The mean annual temperature of Leh is 40°F , that of the coldest months (January and February) only 18°F . The mean highest temperature is 90°F and the mean lowest falls occasionally below 0°F .

Even with its high altitude, there is no definite snowline in Ladakh. However, beyond Latitude 35° North, snow assumes the shape of glaciers. The upper Sind valley with its parallel mountain ranges running west to east has more or less semi-Tibetan type of climate.

Soils

The density of population in an area depends on various factors—climate, location, altitude, water resources and the type of soil. Even though being area-wise one of the largest states in India, Jammu and Kashmir has a very low density of population. The reason is not far to seek. Quite a big chunk of the territory is under mountains and rocks, some of which rise to altitudes varying from 12,000 to over 25,000 feet above the sea level. The climate here is semi-arctic and hence inhospitable to human settlement. The soil is rocky and unfit for cultivation. Except for forests these tracts offer no possibility of growing any crop.

In the Jammu region, the soil of the foothills and areas adjacent to them, comprises of loose boulders and gravel with ferruginous clay. This type of soil spreads over the districts of Kathua, Samba, Jammu, Akhnoor and Rajauri. However, many cultivable stretches of land lie in between. Here the soil is generally loamy but poor in clay content. With the application of fertilizers, sizeable areas have begun to yield rich crops of wheat, maize and pulses.

In the Middle Mountain region, the soil is mainly formed of decomposed rocks and peat. Decayed vegetation provides nitrogenous material on higher elevations which support large forests growing oak, pine, spruce and fir trees.

The valley basins such as in Kishtwar and Bhadrawah and on the slopes of the lower hills contain sub-montane and mountain meadow soil. Here cultivation of rice, wheat and maize is possible. The agricultural operations are however strenuous and of short duration. However, with increased irrigation facilities and application of fertilizers, the yield has gone up fourfold.

Thanks to its river systems, the valley of Kashmir has a large area of alluvial soil. This soil may be classified into two categories: the new alluvial which is found in the bays and deltas of the mountain rivers, and the old alluvial which lie above the banks of the Jhelum river and extends as far as the karewas.

The first is naturally of great fertility being renewed every year and enriched by the silt of the mountain streams. The second is of less fertility, but with good and moderate rains and proper tillage it gives excellent results.

The major crop in the Valley is rice. Water being available in sufficient quantity and the soil being enriched by the silt from mountain streams, rice cultivation is widespread and practised from time immemorial. The Kashmiri cultivator has appropriate treatment of the four distinct types of soil found in the valley. These are known *gurtu*, *bahil*, *sekil*, and *dazanlad*. *Gurtu* soil contains a large proportion of clay. It holds water and in years of scanty rainfall is the safest land for rice. *Bahil* is a rich loam of great natural strength and there is always danger of over-manuring it as the soil may become too strong, resulting in rice running to leaf. The disease *rae* frequently occurs in

bahil soil. *Sekil* is light loam with a sandy sub-soil. Provided sufficient irrigation and good rains, the *sekil* gives a large yield in crops. *Dazanlad* soil is chiefly found on lowlying ground near the swamps. The soil is hot and special precautions are taken to run off irrigation when the rice plant shows signs of too rapid a growth. Sour soil, which sometimes lies in the midst of most fertile areas, is known as *kharzamin*. *Shath* is stony, sandy soil by the mountain rivers. The heaviest rice crops are obtained on lands near the deltas of the streams which have sufficient slope to allow of rapid drainage.

Near the banks of the river Jhelum and in the vicinity of the Wular and other lakes and marshes is found the rich, peaty soil known as *nambli* which yeild crops of rapeseed and maize. The widespread plateaus known as *karewa* are for the most part of *gurtu* soil. In spite of the dryness of an ordinary *karewa* consequent on the rapid drainage into the ravines, the soil is fair and only requires careful tilth. Wherever irrigation has been brought to the *karewa*, fine crops of rice have been raised which indicate there is no inherent fault in the soil.

The prevalence of continental climate in the Valley and suitable soil beds, most of the European type fruit and vegetables and seeds are profitably grown in Kashmir. Horticulture is making rapid progress and Kashmir has now rightly been termed as the Orchard of India.

Agriculture

As in the rest of India, agriculture is the main occupation of the people of the Jammu and Kashmir State. Hence the rural population predominates over the urban. Of the 138,123 sq. kms. of its total area on the Indian side of the cease-fire line, 137,818 sq. kms are rural and only 305.4 sq. kms. urban. According to the census of 1971 the proportion of rural to total population is 81.41 percent. The percentage of cultivators including agricultural labourers to total number of workers in the state is 67.83. The number of villages scattered over this vast rural area is 6,749.

However there is another geographical aspect we have to take into consideration while studying the agricultural operations in

the state. Of the 138,123 sq. kms. of its area, only 28,522 sq. kms, that is one-sixth, are available for cultivation. The rest of the area is under mountains, forests, lakes and glaciers. That explains the low density of population in the state.

Out of the cultivable area, more than 10 per cent is still fallow. But with increasing irrigation facilities this is being slowly brought under the plough. Nine-tenths of this fallow land is in Jammu region and the rest in Kashmir.

The main crops grown are rice, wheat, maize, barley, oil-seeds, pulses and fruit.

Rice: Rice in husk called *Dhanya* in Kashmir and *Dhan* in Dogri, is the staple food of the Kashmiris. Its cultivation in the Valley goes to antiquity. The total acreage under rice in the state is 533,000. Requiring copious water supply for irrigation, its cultivation in the valley is facilitated by numerous mountain streams, lakes and springs. Kashmiris are great connoisseurs of rice and boast of having as many as 150 varieties, each having special qualities in taste, fragrance and digestibility. Of the best varieties are *Lolianzul*, *Laarbyol*, *Mushkabudij* and *Koni*. But the recently developed high-yielding breeds are now grown extensively and local varieties have been almost given up.

In Jammu, rice is grown in tracts where irrigation is possible, such as the lower slopes of the river Chenab. The quality of rice here is coarse. However, better quality rice is grown in Ranbirsighpura near Jammu city.

Wheat: In Jammu, wheat is cultivated as the major crop on 330,000 acres of land. Like the Punjabis, the people of Jammu region have wheat as their staple food. Sown in autumn when the soil is warm and wet after the retreating monsoon, it grows during winter and is harvested in spring.

In Kashmir, wheat though not the staple food of the people, is grown mainly for bakeries, for, Kashmiris are fond of taking baker's bread along with their salt tea. It is cultivated in arid zones with one or two ploughings. The land is neither manured nor weeded. Sown in September and October it ripens in June. Over 78,000 acres of land are under wheat cultivation in the valley.

In Ladakh cultivation of wheat is on the increase with the extension of irrigation facilities and introduction of new high-yielding varieties and chemical fertilizers. More than 7,000 acres are under wheat cultivation.

Maize: Maize as a food crop is of considerable importance in the state. At higher altitudes it is valued for its warm and nourishing qualities. Its consumption is increasing with the introduction of better seeds. The best soil for this crop is reclaimed swamps and lands at higher elevations. Karewa land has also been recently brought under maize cultivation. The Gujjars who apply heavy manuring, grow abundant crops. The grain forms their main diet and the stalk and leaves of the plant are consumed by their cattle. Ordinarily two or three ploughings are given. Sown in May and June it ripens in late September.

Barley: Barley is not valued as a food in the state but is grown mainly as fodder for ponies and cattle. In higher villages at an elevation of 7,000 feet or more, there is a peculiar kind of barley known as *grim* or Tibet barley which is an important food crop for people living there. Barley is sown in the valley from October to December and ripens in June. Most of it is however cut before the ears are formed and is used as green fodder for cattle.

The total area under barley cultivation in the state is 58,000 acres of which there are hardly 5,000 acres in the valley, the rest being in Jammu.

Oil-Seeds: The important oil-seeds grown in the state are rapeseed, mustard, linseed and sesame. Walnut kernels also yield oil, but these are now prized for their export value.

The total area under oil-seed cultivation in the state is 96,000 acres. Out of this 28,000 acres are in Jammu, 67,000 in the Valley and about 1,000 in Ladakh.

There are a number of oil expressors in the state located mostly in towns and cities. However, oil-seeds produced in the state are not enough to meet the local demand for edible oil. Hence a sizeable quantity of oil and oilseeds is imported annually from the Punjab, Haryana and Uttar Pradesh.

Pulses: Kashmiris are not fond of pulses but they value them as sheep food in winter. Pulses are grown as mixed or side crops. Among these are *moong* (*phaseolus mungo*), *mah* (*phaseolus radiatus*), *moth* (*phaseolus aconitifolius*). Peas and delicious white beans (*rajmah*) are cultivated mostly in fields adjacent to villages or in vegetable gardens.

Fruits: Fruit growing has been practised in Kashmir from time immemorial. Mention of Kashmir fruits and grapes is often made in the *Rajatarangini*. Apples, peaches, grapes and other varieties of fruit from Kashmir were regularly served at the tables of the Mughal emperors and their courtiers. It was however during the latter part of the 19th century that fruit cultivation received a fillip with the introduction of European grafts and saplings of apples, cherries, apricots, plums, peaches, pears, almonds, walnuts and grapes. Since then Kashmir has become the orchard of India. Fruit is now an important source of wealth to the state, its annual value having crossed the Rs. ten crore mark. Elaborate and intensive programme for the extension of orchards and supply of standard varieties of fruit plants and seedlings have been initiated by the Department of Horticulture. More than 75,000 acres in the valley are under orchards.

In Jammu mango and other tropical fruit is receiving attention from the Department and many finer varieties of these have been introduced for cultivation.

Saffron: Saffron (*crocus sativas*) has been the monopoly of Kashmir from ancient times. It is grown on the vast plateau of Pampur (ancient Padmapur). Used mainly as pigment, condiment and medicine, it is in great demand from markets in India. Saffron enjoys an honourable position among the articles used by the Hindus in their daily worship.

The cultivation of saffron is an art in itself. For seed purposes a particular aspect and sloping ground is required, and it takes three years before the bulb can be planted in the small square plots where the saffron is to be grown. The plots must remain fallow for eight years and no manure can be given to them and no assistance given in the way of water. When once the bulb has been placed in the square, it will live on for fourteen years

without any help from the cultivator, new bulbs being produced and the old ones rotting away. All that the cultivator has to do is to break up the surface gently a few times and to ensure proper drainage of the plot by digging a neat trench on all four sides. The flowers appear about the middle of October. When collected the three long stigma are picked out by hand and dried in the sun. The three red ones are called the *shahi zafran*, the first quality saffron. The long white base of the stigma also makes saffron—the second quality. This in the dried condition is known to the trade as *mongra*.

Saffron is also cultivated in Kishtwar on a plateau resembling Pampur. But the quality is not as good as that produced in the Valley.

Irrigation

Agriculture in the Valley practically depends on irrigation. Thanks to its formation, irrigation is easy, and in ordinary years abundant. But with the increase in population, pressure on land has grown enormously. Barren and dry lands which were left fallow for years, have been brought under the plough. The karewas are promising fields for growing rice provided irrigation facilities are made available.

Owing to the heights at which water can be taken off, there is scarcely any part of the valley which cannot be irrigated. Hence the construction of irrigation canals is highlighted in the earliest traditions recorded by Kalhana. The *Suvarnamankulya* (modern *Sonamankul*) which is ascribed to king *Suvarna* and which still brings water to a great part of the *Advin Pargana*, is of great antiquity. The reference to the aqueduct by which king *Damodara* is supposed to have attempted to bring water to the plateau named after him, though legendary in the main, is also characteristic. *Lalitaditya* is credited with having supplied to villages near *Cakradhara* (modern *Tsakadar*) with irrigation facilities by the erection of water-wheels (*araghata*) which lifted water from the *Jhelum*.

Avantivarman's engineer-minister *Suyya* carried out desilting of the river bed between the *Wular lake* and *Baramulla*, thus speeding up the water discharge from the valley. This resulted in the

reclamation of large tracts of land for cultivation. He also changed the course of the Jhelum and the Sindhu in such a manner that irrigation of dry and barren lands became possible.

Zain-ul-abidin completed numerous irrigation projects. He constructed several canals chief among which were the Utpalapur, Nandashila, Bijbihara, Advin, Amburher, Manasbal, Zainagir and the Sahkul at Bawan. Some of these canals supplied water to the otherwise dry karewa lands. During the past seventy years most of these have been repaired and reconstructed and put to use.

After Independence lift-irrigation in the valley received serious attention. It helped in providing irrigation to lands on the banks of the Jhelum. Pumping stations were set up at Dogripura, Padgampura, Letapura, Delina, Barru and Ladura.

In Jammu a number of canals have been built. The Ranbir, the Ujh, and Upper Jhelum canals help cultivation on arid lands known as *kandi*. The Udhampur canal, built at a cost of 6.11 lakh rupees was estimated to irrigate 2,400 acres of land, but due to frequent landslides this target has not been achieved.

In Ladakh with an annual rainfall of bare three inches, irrigation poses enormous problems. The construction of water reservoirs in river basins will prove useful. Canal irrigation has recently been taken up.

At present the net irrigated area in the State is over 3,50,000 hectares.

Forests

The state's geophysical features are responsible for providing it with rich forests. They are verily the green gold of Kashmir. In their extent, distribution and growth potential, these forests constitute a major industry and hence form the mainstay of the state's economy.

Coniferous species (*deodar*, *kail*, *fir* and *chir*) cover an area of 2,886 sq. miles and the broad-leaved species 394 sq. miles. The maximum possible annual cut is 295.00 lakh cubic feet for coniferous forests.

The forests play a vital role in the maintenance of natural balance which is of paramount importance to a hilly country like

Kashmir. They provide protection to the hill-side from erosion, regulate water supply in the nullahs and rivers and enhance the aesthetics of the country as a whole. The annual revenue from forests has crossed the five and a half crore rupees mark.

The forests yield a variety of minor products such as Kuth, Belladonna, Dioscorea, Hyoscyamus, Podophyllum, Digitalis, Artemesia, Pyrethrum, etc. These products have medicinal value and are supplied to the pharmaceutical industry.

The forests are also the habitat of some rare species of wild life such as Barasingha (*Hangul*), Musk Deer, the Brown Bear, Markhor, Snow-leopard, etc.

The Forest Department of the state was established over 70 years ago and its efforts at preservation and perpetuation of forests have borne fruit. Vast areas have been brought under new plantation and many degraded forests have been rehabilitated. Forest roads, rest houses and launching sites have been constructed. Soil conservation schemes have been implemented. From 1960 the Department has taken up lumbering operations on its own. The aim is to eliminate forest contractors and to give a better deal to the labour employed in lumbering. Scientific exploitation of forests is thus possible because malpractices inherent in working of forests through outside agencies are eliminated.

Before partition the Jhelum, Kishenganga and the Chenab rivers provided cheap transport of timber from forest sites to the markets in the Punjab. But after the Pakistan invasion of the state in 1947 and coming into existence of the cease-fire line, the main river-routes have been replaced by road-rail outlet across the Pir Panjal.

Pandit Anand Koul—A Life-Sketch

Among the Kashmiris who pioneered the movement for the resurgence of their compatriots at the turn of the century, there is perhaps no more notable and distinguished figure than Pandit Anand Koul.

He was born in Srinagar on April 3, 1867. The only son of his father, Pandit Tota Koul, a *Kardar* in the Revenue Department of the State, he passed his childhood and youth in easy circumstances.

Education and Training

Having survived the hazards of infant mortality from small-pox, measles, typhoid, cholera and pneumonia which used to carry away a sizeable chunk of the child population every year, he was put to school at the age of seven. *Tsathal* (*tsat*: student, *hal*: place) as these schools were called, were but poor remnants of the schools of learning for which Kashmir had been famous. They were now run by semi-literate hereditary teachers who took classes in a dark, dingy room of their house. The teaching was confined to a few elementary books in Sanskrit, Arabic and Persian. And lucky were those few who could boast of having even that much of schooling. The rest of the people remained utterly illiterate and ignorant all their lives.

And no wonder. Generations of oppression of the worst type

by the Mughal, Pathan, Sikh and Dogra governors had reduced the poor Kashmiris to the lowest depths of ignorance, penury and helplessness. Gone were the days when their solid contributions to Sanskrit and Persian literature; their humanistic philosophies of Saivism and Sufism; their creations of beauty through art, sculpture and architecture, had earned for them universal acclaim and respect.

Towards the end of the nineteenth century Kashmiris presented a picture of a downtrodden and impoverished people. At home they were ruled like dumb driven cattle and outside they were jeered, maltreated and abused. The peasants were robbed of the fruits of their labour by rapacious tax-gatherers; they lived for most part of the year on water-chestnuts and had no better shelter than miserable mud hovels. The shawl trade which had sustained the city-dwellers for centuries had been nearly killed by iniquitous and heavy taxation. Disease, and famine stalked across the land. And to crown it all they were subjected to *begar* or forced and unpaid labour.

All this and the blood-curdling scenes of starvation and death he had witnessed during the devastating famine of 1877-78 when two-thirds of the population of the Valley perished, could not but produce a deep impression on the boy. At the age of fourteen when he had completed his studies at the *Tsathal* he was fit enough to enter state service—the ultima thule of a Kashmiri youth's career. But he did not think in those terms. The outdated *Tsathal* education had not opened for him the window on the world. Already the stories of the scientific and literary achievements of the people of Europe were circulating among the people. The young boy would listen to these anecdotes with keen interest. He thirsted for more knowledge. The key to this knowledge, he realized, lay with the English language. But where could he find a competent teacher? There was none in the secluded Valley of his boyhood days.

However, luck favoured him. The strategic importance of Kashmir had dawned on the British Indian Government. They had secret plans to resume all civil and military powers of the Maharaja. The Officer-on-Special-Duty had already been planted in the Valley for the six months of summer and the appointment of the Resident, vigorously resisted by Maharajas

Gulab Singh and Ranbir Singh, was to materialize on the latter's death.

As usual, the Imperial penetration was preceded by the arrival on the scene of the Church Missionaries. The first to establish himself in Srinagar was Rev. John Smith Doxey who planned to set up an English medium school. With the Maharaja's avowed opposition to such activities, Rev. Doxey found it extremely difficult to attract boys to take lessons from him.

Imagine his joy when one fine morning in 1881 two boys, Pandit Anand Koul and his cousin Pandit Narain Das, appeared before him and requested him to teach them English and other subjects. There and then he brought out suitable readers and pictorial reading aids for them. The class began—the nucleus of the famous Church Mission School which later rendered yeoman's service to the cause of education and social welfare in Kashmir.

But it was not smooth sailing for the two boys. They had to face ridicule and open hostility from their community in general and their near relations and friends in particular. The common belief was that the sole objective of the Missionaries was to convert the people of Kashmir to the Christian faith. The two boys, they apprehended, had fallen into the Missionary's net and they had to be 'rescued'. All the pleadings of their parents and relatives to desist from attending Rev. Doxey's classes, however, failed—so intense was their desire to pursue higher studies.

Rev. Doxey, as Pandit Anand Koul would later relate, was a versatile scholar. Observing the zeal and patience of his two students he put his heart and soul into imparting to them as much knowledge as he possibly could. Within a short period of two years, the boys could write essays and short stories and speak the language fluently. They learnt algebra, geometry, history and geography and had first lessons in physics and chemistry as well. Their horizon of knowledge widened, and with it their prestige too.

Rev. Doxey left for England in 1883 and was succeeded by Rev. J. Hinton Knowles, an equally competent scholar and teacher. He developed a special liking for Pandit Anand Koul. Interesting himself in the study of the language and folklore of

Kashmir, Rev. Knowles received active help in this work from his pupil. The Pandit's interest in research dates from his association with the learned missionary.

But this close association gave rise to apprehension among his people that he had secretly adopted the Christian faith. Maharaja Ranbir Singh called Pandit Anand Koul's father, Pandit Tota Koul to his presence and told him in plaintive words that should his son have finally decided to change his faith, he should in deference to the Maharaja's wishes wait till the latter's death which would not take long. Pandit Tota Koul pleaded that it was not true ; he had full faith in his son. He assured the Maharaja that he would make sure that his son staunchly stuck to his religion.

He asked Pandit Anand Koul to prove his bona fides by studying and copying out the Persian translation of the Mahabharata. Should he do it he would not only support his continuing his studies at the Mission School, but would actively resist all opposition from the Maharaja and his community.

The boy accepted the challenge and took up the arduous and time-consuming task in right earnest. For six months he worked tirelessly and completed the copyist's job in record time. The folios of the epic written in neat and legible hand without a single error is still the prized possession of the family.

So all opposition vanished and Pandit Anand Koul continued his work with Rev. Knowles. The research work entailed vast studies not only in the English language, but also in Sanskrit, Persian and Kashmiri. Rev. Knowles's "Kashmiri Proverbs", "Folk-tales of Kashmir" and other works bear the stamp of Pandit Anand Koul's erudition and scholarship which the author also acknowledges at several places in the books.

Thus two years of intense study and research under the guidance of Rev. Knowles made Pandit Anand Koul a learned scholar in his own right. Meanwhile the Mission School had grown and was proud of having 200 boys on its roll. Rev. Knowles could think of no better man to be the first headmaster of the School than Pandit Anand Koul, its first pupil and the first Kashmiri to learn the English language. He appointed him to the post with a special request for his assistance in his research and writing work.

Then followed six more years of intensive study besides the work of organising the school and teaching. No wonder the Pandit became a versatile scholar. He had acquired far more knowledge and education than he could have from a formal university degree and post-graduate courses.

With the death of Maharaja Ranbir Singh in 1885, revolutionary changes occurred in the State administration. Soon the new Maharaja, Pratap Singh, was deposed and a Council of Regency appointed with his brother, Raja Amar Singh, as the President. The Council had, however, to function under the control of the Resident who became the *de facto* ruler of the State. The court language was changed from Persian to English and Urdu. Wholesale recruitment of personnel from outside the State was resorted to and the people were thrown at the mercy of unsympathetic and rapacious non-Kashmiri officials.

With his educational background, Pandit Anand Koul could have easily entered the State service. But he loved the teaching profession so fervently that he would not leave it even for the dignity of State service with a higher salary. "But", he wrote later, " 'Fate's hid ends eyes cannot see'. Fate *did* lead me to accept it." It so happened that one day in April 1890, he had a little quarrel with Rev. Knowles on a point of principle. So he left the School service though Rev. Knowles wished him not to do so. At his departure Rev. Knowles lauded his services to the school and his being the "most efficient, faithful and well-tried teacher".

An Administrator

On hearing of his having resigned the headmastership of the Mission School, the President of the Council, Raja Amar Singh, called Pandit Anand Koul to his presence and offered him the post of Sheriff of his office. He was to attend the meetings of the Council and record the minutes in English for the perusal of the Resident. This was a highly responsible job particularly during the sensitive years when political activity was at the highest pitch.

Once in State service his promotion followed quickly. A year later he became assistant to Dr. A. Mitra in the census opera-

tions. His association with the first-ever and subsequent decennial census operations in the State equipped him with a deep knowledge of the life and problems of the people.

Dr. Ashutosh Mitra's name is still taken with respect and reverence by the Kashmiris. This far-sighted and competent physician and administrator was taken into State service as Chief Medical Officer by Maharaja Pratap Singh on his ascension to the *gaddi* in 1885. The young doctor worked energetically and set up a modern hospital in Srinagar and several medical dispensaries in the State. His hard, intelligent work won for him the gratitude of both the people and the State Council. He was put in charge of several departments besides the Medical, including the meteorological, municipality, jails, education, public works and many more. Within a few years he rose to be the Home Member of the State Council. He was appropriately termed the father of sanitation and education in the State.

Pandit Anand Koul's contact with Dr. Mitra opened for him the road to rapid progress in his official career. Dr. Mitra soon recognized his qualities of head and heart and his scrupulous honesty. When the census operations were over, he appointed him as the Jailor of the Srinagar Central Jail. Here the Pandit brought to light several dishonest practices that were going on for several years past. The prisoners had been deprived of their due rations and other necessities. By restoring these, the Pandit earned their love and regard. They responded willingly to his call for cleanliness, order and smooth-running of the Jail. When a year later Dr. Mitra promoted him to the post of Superintendent of his office, the jail inmates were so upset that they refused to take their meals unless he was put again in charge of the Jail. It was only on being assured by Dr. Mitra that their interests would be looked after by the Pandit in his new assignment too, that they agreed to take food.

Rev. Hinton Knowles referred to Pandit Anand Koul's appointment as Jailor in his address to the Viceroy (Lord Landsdowne) in 1891. "There was a time", he said, "when there were only four boys in our school, one of whom became so efficient that the State appointed him to the important charge of the city jail here."

Dr. Mitra had implicit faith in his integrity, efficiency and

hard work. Very soon he entrusted him with the charge of the Secretary of the Srinagar Municipality of which he himself was the President. Later he asked him to look after the other Departments too. "You have performed the multifarious duties", he wrote to him in December 1891, "with marked honesty, integrity and ability." A few months later he wrote to him that he had thorough reliance on him and considered him "perfectly honest, of which, you know I have given public expression on several occasions."

Pandit Anand Koul's honesty had become proverbial during his life-time. An interesting episode which highlights this virtue in him occurred during his early association with Dr. Mitra.

"Dr. Mitra", he writes, "used to give me sometimes (when he went on tour) signed blank bills to be filled by me when I required to draw money from the State treasury. Once he gave me such a form duly signed in presence of Col. Dean, the then Superintending Surgeon, who happened to sit with him in his office. On Col. Dean's remonstrances at such a risky practice, Dr. Mitra smilingly remarked that he could safely trust me upto one lakh of rupees and after that he would stop to think if he could trust me still further."

Of his honesty scores of instances can be quoted. He considered every office he held as sacred trust and performed his duties fearlessly and honestly. Once when he headed the Customs and Excise Department he conducted a surprise inspection of a customs post. He noticed several dishonest practices on the part of the staff. He booked all of them including one who was a close relation of his.

Meanwhile the political developments in the State were moving fast. Having gained their objective of securing active control of Gilgit by establishing an Agency and posting of the Imperial Service troops there, the British extended a few concessions to the Maharaja. In 1893 he was granted the title of G.C.S.I. The ceremony of handing over the insignia was presided over by the then Resident, Col. W.F. Prideaux. To demonstrate how much regard and love he commanded of his subjects, the Maharaja had arranged an address of thanks to be presented at the Durbar on their behalf. But who could write and read it in English? Pandit Anand Koul was asked by the Maharaja to do it. When

the ceremony was over His Highness presented him with a robe of honour.

The proceedings of this Durbar were reported extensively in the Anglo-Indian press. The *Pioneer* of October 6, 1893 wrote: "The presentation of the Insignia over, a Kashmiri, Pandit Anand Koul, came forward from among the assembled Durbaris with a complimentary address on behalf of the people...."

Dr. Mitra realized that there was no possibility of his further promotion in his department. So he recommended him to the *Hakim-i-Ala* or Governor for a post in the Revenue department, remarking: "To encourage such an able native of the country will be to encourage indigenous talent...." In February 1900, the Governor appointed him as Assistant Superintendent of Customs, reporting to the Revenue Member of the Council that he "knew of no one better or equally qualified for this post." Later he brought him on promotion to work as Superintendent of his office, remarking: "Pandit Anand Koul gave me entire satisfaction. He deserves a much higher post and it will give me much pleasure to see him rising further."

An opportunity to promote him further came a few months later when, at the request of the State Council, the Government of India deputed Sir C.G. Todhunter to reorganize the Customs and Excise Department of the State. On reaching Srinagar, Sir Todhunter asked the Governor for the services of a man "with a head on his shoulder". The Governor at once replied he had such a man for him in Pandit Anand Koul.

The Pandit's work gave entire satisfaction to Sir Todhunter, a hard and tough task-master. Together they worked on the re-organisation scheme of the department and when the report was submitted to and accepted by the Council, Pandit Anand Koul was given the charge of the department for the Jammu province.

For seven years he worked in Jammu and set the Customs department on a firm footing. He stopped the widespread smuggling of contraband into the State and conducted daring operations against smugglers at the risk of his life. The result was that the Customs revenue became the second largest source of income to the State exchequer after land revenue. The Members of the Council and successive Residents appreciated his work in numerous reports and letters. The Resident wrote to

him in 1905: "The large customs receipts for the Jammu province is largely due to your exertions." The State Council recorded in a Resolution that Pandit Anand Koul was "zealous and indefatigable in the discharge of his duties."

In 1907 he was transferred to Kashmir. The Jammu people with whom he had endeared himself gave him a public send-off. The Maharaja granted him a robe of honour and the Resident presented him a silver souvenir.

In Kashmir too he worked with his usual zeal and efficiency and the department made rapid progress. In 1910 he was posted as the Superintendent of the Customs and Excise Department.

However Dr. Mitra knew of his ambition to do something tangible for the upliftment of the Kashmiri people. As soon as the Pandit came to Kashmir on transfer, Dr. Mitra entrusted to him besides his own duties, the office of Vice-President of the Srinagar Municipality. He took up the work of reorganising and putting the Municipality on firm foundations in right earnest. He took personal interest in improving the sanitary conditions of Srinagar. Seeing his zest for this work, Dr. Mitra on the reorganisation of the Municipality in 1913, got his services transferred from the State to the Srinagar Municipality as its first official whole-time President. Here, he knew, he could make a permanent contribution to the well-being of the people.

One of the oldest cities in India, Srinagar had then the unenviable reputation of being called the filthiest city in Asia. It was squalid and dismal, its streets, if any, rude and soiled with offal. Poverty was but too apparent. The houses were huddled together, built with utter disregard for light and ventilation. The faecal contamination of water and food was a daily episode in the life of the people. The crooked narrow lanes were unpaved, without a drain in existence anywhere. There were neither private nor public privies and the people eased themselves in the streets or in their narrow compounds. Added to this were the ignorance and prejudices of the people.

No wonder disease and epidemics took a heavy toll of life. Cholera was endemic and carried away thousands of people every year. So were typhoid, small-pox, measles and pneumonia,

Mrs. Parbury wrote in 1900 in her book "Kashmir":

"Just as the scenery and charm of Kashmir are unequalled,

so the streets and by-ways of Srinagar are unrivalled for smells. Oh those smells ! They were so overpowering that I believe one could both hear and see them. There is no Medical Officer of Health with unlimited powers to condemn property in this city of smells. If there were such a being, he would condemn every house right away, then all the owners of the said houses would rise up in a body and condemn him and he would be no more."

So it was a Herculean task to improve the sanitary conditions in Srinagar and to overcome the superstitions and apathy of the people. Dr. Mitra had begun the work about two decades earlier, but with the paucity of funds and want of dedicated workers, the progress was slow. In 1890 he had persuaded the Council to establish a Municipal Committee with official and non-official members. But soon he discovered to his disappointment that the Committee itself was a stumbling block. "It appears to me", he wrote in his report, "that such a corporate body as the present Municipality is a premature institution for Kashmir....In Srinagar, homes have no latrines and any attempt to sanitation must necessarily be preceded by a rule that householders should build a latrine attached to the house. This proposition, when laid by me before a meeting of the Municipal Committee was so vigorously protested that it had to be dropped."

But the indefatigable Doctor did not give up hope and persisted with his various schemes at improving the sanitation of the city. In this work he received whole-hearted cooperation from his assistant, Pandit Anand Koul. It was due to their efforts that the Council accepted the proposal to bring clean drinking water through pipes to the city of Srinagar. Needless to say this had a very salutary effect on the control of cholera and other water borne diseases.

So in 1913 when Dr. Mitra persuaded Pandit Anand Koul to take charge of the Municipality, as its official President, he had in mind the Pandit's past experience in this field. Rules and Regulations were framed to give to the new incumbent enough powers to carry out sanitary measures vigorously.

The Pandit had, however, implicit faith in the citizens to respond to these measures approvingly. In marked contrast to the wholesale condemnation of the "dirty" people of Srinagar

by unsympathetic aliens, he repeated in his reports and public lectures that the "people of Srinagar are not generally averse to cleanliness. They are poor and ignorant and unaccustomed to modern sanitary measures. They are like children and must be taught like children by a tactful combination of persuasion and compulsion."

This policy of persuasion and compulsion began to yield results. "Pandit Anand Koul's crusade", wrote the *Civil and Military Gazette* of Lahore in 1911, "against the insanitary conditions of that picturesque town was obtaining success." He made it a point to make public speeches at various centres, exhorting the audience to lend a helping hand by adopting clean habits and sanitary practices. Simultaneously he took firm measures to enforce the Municipal regulations regarding house-building, widening of roads and prevention of insanitary practices of the people, notably by food and milk vendors.

By and by the Municipality became a live organization. A Health Officer, a Sanitary Engineer and supporting staff were appointed. Pandit Anand Koul's presence and inspiration was felt everywhere. He and the Municipality were synonymous. He was a true crusader. Besides disease and sickness he had to fight ignorance, superstition and want of faith. Very soon he had the satisfaction of seeing the city assuming a new look. A foreign doctor who was working in Kashmir for years wrote to him in 1917: "I who go about all parts of the city, see the wonderful sanitary improvements." The people began to have faith in him and his work. "The fatalist's theory", he wrote in one of the reports, "that if one is destined to be well he will be well and if destined to be ill he will be ill, has now been discarded by the Kashmiri people." His Annual Reports and Notes on Sanitation in Srinagar were avidly read and studied by sanitarians and Social Workers in India. Leading newspapers published their reviews as Editorials. However a lot more had yet to be done. He said he prayed for the day "when typhoid will be no more and tuberculosis, smallpox, measles, cholera and a host of other preventable diseases will only be found in the books of medicine." His dream has to a great extent come true.

And finally came the day when after having attained the age

of superannuation he retired from Municipal service after putting in over twenty years of hard work first as Secretary, then as Vice-President and finally as President of the Municipality to change the shape of things in Srinagar. His greatest pleasure and satisfaction was that the citizens of Srinagar had by and large loved him more as their wellwisher than as a government official. Their love and respect for him was vividly demonstrated when during the virulent communal trouble in 1931—six years after his retirement—he would pass freely through Muslim localities, in the city, alone and unguarded.

His salary at the time of his retirement was Rs. 550/- per month to which figure no other Kashmiri had ever reached up to that time. This speaks volumes for his efficiency, honesty and hard work, dominated as the State administration was at that time by aliens quite unsympathetic to the people and always ready to thwart his work and prevent his rise in the official ladder.

Writer and Historian

But he did not accept his retirement as a period of rest. He worked harder in a field very much to his liking—research in and writing about the history, archaeology and folklore of Kashmir. “My chief ingredients of happiness”, he wrote in his diary, “were a vigorous interest in the objects of mental culture, genuine affection and sincere interest in public good.”

Pandit Anand Koul's career as a writer and historian began while he was a student of Rev. Knowles. His collaboration with Rev. Knowles' research work has already been mentioned. He had, however, to take up his pen to vigorously defend the rights and privileges of Kashmiris who were subjected to untold sufferings by unsympathetic government agencies. In the decade that followed the devastating famine of 1878—which carried away one-third population of the Valley—the scarcity conditions continued to an acute degree. What with the pathetic depletion of man-power, the paucity of seeds and the shortage of cattle, to carry out agricultural operations, the paddy and wheat crops were woefully insufficient for the people to have two meals a day. At this time when they needed all the help and sympathy from the government, their misery was increased manifold by

forced grain and labour levies. This was done in the name of supplies to and transport of baggage for the garrisons at Gilgit and Ladakh. The operations were undertaken with the active support of the British. No wonder there was widespread lamentation all over the Valley and the cry rose "save us from Gilgit'."

The scenes of cruelty were too much for the young Pandit to bear. They aroused his righteous anger. He began a strong and sustained campaign against forcible levy of labour and grain through his letters to the Editor, and articles in the then powerful Anglo Indian press. His writings were full of harrowing tales of cruelties perpetrated by the agents of the Gilgit Transport Service (an organization created by the British) and so packed with factual information that the Resident was moved to issue directives to stop the practice forthwith. Even now his protests make hair-raising reading. He charged the State and British officials with callousness and inefficiency. At the present time we may consider such writing a harmless game, but in those days it amounted to open defiance of the mighty British Empire that could bring dire punishment to the writer.

It was also a decade of intense political activity on the Kashmir frontier. Because of the fear of Tsarist expansion towards India, the British began to strengthen the borders with the posting of Imperial Service troops and taking over the administration of Kashmir into their own hands. Hunza and Nagar were occupied after an armed conflict with the local chiefs and so was Chitral. Kashmir became overnight a centre of world interest and attracted wide press coverage. Hence the Anglo-Indian press in India was on the look-out for a reliable and efficient correspondent in Kashmir to report the events of importance and of news-value. Pandit Anand Koul's spirited but sincere and factual comments on the working of the Gilgit Transport Service and the hardships caused by their activities to the poor people of Kashmir, had impressed the Editors of the *Civil and Military Gazette*, Lahore, and the *Pioneer* of Allahabad. Both offered him the job of a correspondent. Mr. Kay Robinson, the noted Editor of the *C and M Gazette* wired on October 16, 1891: "Please act as our correspondent. Telegraph full accounts of everything, speeches especially."

The offer, though tempting, was difficult to accept. It meant inviting the wrath of the Maharaja and his administration who were averse to such activities. Moreover he held a permanent job in the state administration and though the service conduct rules were not in existence then, could he work as an honest journalist? He consulted his patron, Dr. Mitra. After going through his published articles, Dr. Mitra considered this an opportunity for the Pandit to render great service to Kashmir. So he advised him to accept the offer unreservedly.

Pandit Anand Koul thus scored another first—the first Kashmiri to be a journalist. At a time when Kashmiris were ignorant of even the word “newspaper”, he made use of this powerful medium for the betterment of his compatriots. He regularly filed stories of important events. His despatches covered social, political and cultural activities taking place in Kashmir. He continued to be the special correspondent of *C and M Gazette* and the *Pioneer* till 1901 when he took over the charge of the Customs Department in Jammu.

Fortunately his despatches were preserved by him and form a very valuable source material for a socio-political history during this period of transition of Kashmir from medieval to modern.

He raised his voice against the insults and abuses hurled at the Kashmiris and the numerous injustices they suffered from in their own homeland. The root cause of this was the usurpation of all government jobs by non-Kashmiris who, in order to retain their positions, “dismissed all difficulties of administration with the remark that the Kashmiris were dishonest, treacherous and *zulum parast*.” Hence he raised the slogan: “Kashmir for Kashmiris”. In an article published in the *Civil & Military Gazette* of October 22, 1892, he gave a harrowing tale of the indignities and oppression suffered by the Kashmiris at the hands of selfish and unsympathetic non-state subject officials of mediocre abilities. Until the administration was manned by Kashmiris from the highest post to the lowest, there was no hope of their coming into their own. “If”, he pleaded “a Muhammadan Member is to be appointed to the Council, I suggest that some promising man from His Highness’ own subjects be selected for the post. He will know more

about the real wants and grievances of the people than an outsider however brilliant his past career may have been."

He continued the crusade relentlessly for over four decades till in 1928 the Maharaja no longer able to flout the public opinion created all these years by the Pandit's writings and later by younger men, issued orders banning recruitment of non-state subjects to government jobs.

Simultaneously we find him taking up cudgels on behalf of Kashmiris against the systematic campaign of vilification carried on against their character by Indian and foreign writers. No derogatory remark or observation of this nature would go unreplied. Through articles and notes he refuted the base allegations with facts, and illustrations from the history and culture of the Kashmiris, proving their nobility of character. He even held personal discussions with the authors of such calumnies if they happened to be in Kashmir.

As early as 1885 he wrote a spirited article in the *Civil & Military Gazette* under the heading "Kashmiri Character" refuting the aspersions cast by a missionary in his sermon that "Kashmiris from their youth upwards were inculcated in the art of lying and deceiving." In 1909 he confronted Dr. A. Neve for his derogatory remarks in his book "Picturesque Kashmir," such as, 'Kashmiris are cunning', 'treacherous', 'lovers of oppression', 'fit to be kicked', etc.

"Are not the Kashmiris," he told Dr. Neve, "industrious hospitable, meak, self-abnegating, grateful, generous, loyal and faithful?" All these traits of their character, he continued, can be proved "from multifarious instances from the history of Kashmir...."

His spirited rebuttals of similar calumnies hurled at the Kashmiris continued till the end of his life. In early twenties of the present century he carried a sustained refutation of the several statements derogatory of the Kashmiri character made by Rev. Tyndale Biscoe in his book "Kashmir in Sunlight and Shade" Rev. Biscoe had to drop most of these in the second edition of the book.

He however had a strong belief that with the spread of education these cowardly attacks on the Kashmiris would cease. Hence he took active interest in all activities, social or non-offi-

cial, devoted to spread of modern education. It gave him immense joy to see the growing number of graduates coming out of the college each year. He took pride in holding annual receptions in their honour.

What fascinated him most was the study of the history and culture of Kashmir. He devoted a good deal of the spare time from his busy official schedule to original research in this field.

His first notable contribution to the study of Kashmir History was an account of the fifty kings whose record according to Kalhana was not available. Basing his paper on Hasan who had secured a translation of the *Ratnakarpurana*, he critically analysed the findings and sent the monograph to the Asiatic Society of Bengal who published it in their *Journal* in 1910. Lord Charnmichael, the then Governor of Bengal in his annual address to the Society mentioned it as the most outstanding piece of research.

In 1909 he wrote another important monograph on the history and archaeology of the Kapalamochana *tirtha* at Shopyan in Kashmir. This was also acclaimed a valuable piece of research and published in the *Journal* of the Society.

Meanwhile he was working on a book "Geography of the Jammu and Kashmir State" which was published in 1913. The need for such a book was being felt by the ever increasing number of tourists to the Valley. True, there were several guide books written by European travellers, but they contained so many wrong statements and place-names that they gave a distorted picture of the Valley and its people. Pandit Anand Koul's "Geography" was the first book in English written by a son of the soil and more authentic. He brought out its second enlarged edition in 1925 since when it has remained out of print.

An allied field of study led him to write and publish scholarly monographs on shawls, carpets and papier machie, the three famous industries of Kashmir—their genesis, manufacturing process and their future. These were published in the then prestigious journal the *East and West*. Their publication aroused lot of interest in these industries in India and abroad. Several readers sent him letters of appreciation.

Another subject dear to him was the study of the Life and Teachings of the great Saiva Yogini—Lalleshwari or Mother

Lalla who flourished in the 14th century of Christian era. His monograph on her life was published in the *Indian Antiquary* in 1921. The editor of the journal, Sir Richard Temple, very much appreciated this contribution, being himself interested in the subject. He has extensively quoted from this monograph in his book "The Word of Lalla".

Pandit Anand Koul's "Kashmiri Pandit" was published in 1924. It is an anthropological study of this small community which has given so much to art, literature and philosophy of India and produced outstanding administrators, judicial luminaries, and politicians.

On his retirement from government service he devoted all his time and energy to literary pursuits. The result was a number of scholarly books and pamphlets which are standard works on the subjects they deal with. He made a deep study of the ancient monuments dotting the Valley, each one of which he visited personally for an on-the-spot study. The result was his book "Archaeological Remains in Kashmir". Besides the ancient monuments it deals with the Mughal Gardens in Kashmir. Sir Tej Bahadur Sapru wrote a Foreword to the book and Mr. V. N. Mehta, ICS, a learned Introduction to garden traditions in Kashmir.

Simultaneously he was continuing his research on and collection of authentic Sayings of Lalla. The result of his research appeared in several issues of the *Indian Antiquary*. Subsequently he collected all the sayings and her life sketch in a book "Lalla Yogishwari" which was published in 1939 and carries a Foreword from Raja Narendra Nath.

The study of Lalla, he thought, would not be complete without that of the Life and Sayings of her contemporary, Nand Rishi *alias* Sheikh Nur-ud-Din, the patron saint of Kashmir. He acquired rare manuscripts of the *Rishi Nama* and the *Noor Nama*. On the basis of these volumes and his wide ranging inquiries and research throughout the Valley, he published a "Life Sketch of Nand Rishi *alias* Sheikh Nur-ud-Din" in the *Indian Antiquary* and his "Wise Sayings" in its later issues. This was the first introduction of the saint to the English-reading public in India and abroad.

Continuing his research on the life and teachings of famous

saints, Yogis and philosophers of Kashmir, he published the "Life of Rupa Bhavani," a hermitess whose teachings have influenced not only the religious but also the social outlook of the Kashmiri Pandits from the 17th century when she flourished. Pandit Anand Koul has shown how she in turn had been influenced by her contemporary the famous Muslim Sufi saint—Shah Sadiq Qalandar.

He also wrote the life of two equally famous saints—"Rishi Pir" (17th century) and "Manasvi Rajanaka" (18th century). His paper on the "Birth-place of Kalidasa" was published in the *Journal of Indian History*.

Dr. Mitra, as mentioned earlier, had a great influence on his life and career. How much admiration and love he bore to this great benefactor of Kashmir, is shown in his booklet: "Dr. A Mitra—A Sketch of his Life and Career." That he wrote it after 12 years of Dr. Mitra's death speaks volumes for his honesty of purpose and loyalty to him.

He had a deep love for the Kashmiri language and literature. It was a pity that with the spread of English and Urdu, the Kashmiris were neglecting their mother tongue. So he concentrated on collecting a large number of "Kashmiri Proverbs" and "Sayings" as also "Kashmiri Riddles". These were published serially in the *Indian Antiquary*. The then editor, Mr. Oldham was a philologist himself. He marvelled at the rich content of these proverbs and sayings as well as the riddles and remarked in one of his letters to the author that there was hardly any language in the world which had such valuable literary treasures. Devendra Satyarthi who called on him in 1934 with a letter of introduction from Rabindranath Tagore, sought his help and cooperation in collecting folk-songs of Kashmir. The Pandit not only translated for him several songs but introduced him to several Kashmiri poets, chief among whom was Pirzada Ghulam Ahmed Mahjur. The *Modern Review* carried a note by him on Mahjur. Tagore was impressed by the thought and content of Mahjur's poems after reading the article.

He had a very large circle of friends among poets, literateurs, Sanskrit, and Persian scholars of Kashmir. His drawing room served the purpose of the cultural academy of Kashmir. He played host to famous personalities in India when they visited

Kashmir. He had the honour and privilege of hosting a dinner to Swami Vivekananda. The Swami was pleased to give a short discourse on how India could become the religious and cultural leader of the world. Dr. Tagore visited Kashmir in 1915. Pandit Anand Koul, gave a dinner in his honour to which all the literary people of Kashmir were invited.

Sir Tej Bahadur Sapru met the educated young men of Kashmir at a reception given by the Pandit at his residence in Srinagar and listened patiently to their hopes and fears. Similarly he invited Sir Dorab and Lady Tata to meet these young men in order to impress on them the importance of trade, and industry.

Among the writers on Kashmir he developed friendship with Sir George Grierson, Sir Aurel Stein, Sir Richard Temple, Mr. C.E.A.W. Oldham, Dr. G.M.D. Sufi, V.C. Scott O'Connor, Dr. Pande, Mr. Devendra Satyarthi, Dr. Sachidananda Sinha, Dr. Lachmidhar Kalla, Pandit Shivnarain Shamim, Mr. Muhammad-ud-din Fauq, Moulvi Mohammed Shah Sadiq, Raja Narendra Nath Kaul, Pandit Hargopal Kaul, Pandit Gopinath of Akhbar-i-Am, Ghulam Ahmad Mahjur, Abdul Ahad Azad, and several other luminaries.

Thus he worked ceaselessly till the last days of his life. The end came after a brief illness on July 11, 1941.

Preface

location of India

KASHMIR is one of the finest ~~countries~~ that the sun shines upon. It is truly called the Sub-Alpine region of Asia's Italy. It is a dream of loveliness ! Its natural scenery is unsurpassed, nay, unrivalled, by any country in the world and its climate, most healthy and invigorating. The mountains around, with ever-snowy crown, crimsoned by the deep lustre of sunrise and sunset, stand guard over it. This happy region seems peculiarly sequestered by Nature for her abode. Mountains, woods and streams—all shouting eternal joy. Hoary mountains, shimmering with snow, fence it all round, the breezes wherefrom give peculiar luxuriance to the air ; while the verdure of the fields, the transparency of the lakes and streams and the abundance of fruits and flowers combine to form an inviting picture for the eye.

A holiday in Kashmir is, indeed, a holy day. One is brought to close communion with Nature. Amidst the glorious masses of light, shade and colour one comes into touch with the deepest and most beautiful things of life. The thrills of holidaying lie amidst the hills with idyllic picturesqueness and in the fields with streams murmuring musically by the shady trees. The whole valley is stretched away into gardens, orchards, meadows and cultivated fields, divided by rustic lanes with mossy banks, flowering hedge groves and luminous vistas of bewildering beauty.

Says the Rájatarangini —

“In the three worlds the the jewel-producing (earth) is to be extolled ; still more on that the region of Kubera (the North) ; still more on that the mountain range, the father of Gauri (Himalaya) ; still more the country that is enclosed by that mountain range (Kashmir).”

The Mughal Emperors, with their fair queens of beauty, made it a health-resort and fed their love for Nature. The pleasure-loving Sháh-i-Jahán was charmed by it so much that he used to visit it frequently on holiday-making bent, and once, when he was ill and away from Kashmir, he recited the following couplet from which can be measured the extent of the love he had for his land of joy :

Khurd gandum Adam az jannat kashidar: dash birin

Man ki khurdam ásh i-jau Yárab ba Kashmíram rasán.

Adam ate the wheat and he was (therefore) driven out of Paradise ;

I took only barley-water. O God, take me to Kashmir !

Sháh-i-Jahán's father, Jahángir, was no less enamoured of the natural beauties of the country. It is he who has said —

Agar firdus bar rue zamin ast,

Hamin ast o hamin ast o hamin ast

If there be a Paradise on earth,

It is this, it is this, it is this.

Asked at his death-bed what desire he had, Jahàngir drew out a deep sigh, looking up wistfully, and murmured softly—“Kashmir and nothing else.”

Az Sháh-i-Jahángir dame naz'a chu justand

Bá khwáhish-i dil guft ki Kashmir digar hich.

When at the time of death Jahàngir was asked (what he desired) With the desire of heart he replied—“Kashmir and nothing else.”

Many writers have, in describing this beautiful country, used all the ingenuity and sophistry at their command.

Sister Nivedita gives her impressions of the seeneries of Kashmir in glowing terms—"We found ourselves in the midst of a beautiful valley, ringed round with snow mountains . . . The sky above was of the bluest of the blue, and the water-road, along which we travelled, was also, perforce, blue. Sometimes our way lay through great green tangle of lotus-leaves, with a rosy flower or two, and on each side stretched the fields in some of which, as we came, they were reaping. The whole was a symphony in blue and green and white, so exquisitely pure and vivid that for a while the response of the soul to its beauty was almost pain !"

Miss Pirie has so finely described the country in her lovely book *Kashmir* that "it is a place where one might live and die content, having seen Nature in all her fairest moods, the stern grandeur of the winter snows, the smiling changeful loveliness of spring, and the exceeding beauty of the clear late autumn ; while, dividing the seasons, come the massed clouds and mist and pealing thunder of the rains."

The Happy Valley, once isolated, has been taking long strides towards civilization. It has been thrown open to the world by the construction of two fine cart roads, one connecting it with the railway at Rawalpindi and the other at Jammu (Tawi).¹ One can travel in a tonga from Rawalpindi or Jammu to Srinagar in four days or in a motor car in one or two days. Aeroplanes also, for the first time, came here flying in April last and, when some day the air service is established, it will be a matter of only an hour to reach here from Jammu or Murree.²

1 The Srinagar-Rawalpindi road beyond Uri is now under the illegal occupation of Pakistan. Hence the road has gone out of commission from Uri onwards.

2 After the visit of the four tiny army bi-planes to Kashmir in April 1925, the Maharaja laid out a turf runway on Damodar *karewa* near Srinagar for his private plane. Chartered planes now and then came to Srinagar in the early thirties. But during the war years there was a regular rush of American and British Airforce transport planes carrying army personnel from South East Asia Command for a short holiday in Kashmir.

Travelling having become easier, the number of visitors is increasing every year,³ and the demand for books containing particulars in regard to the state is, therefore, growing. There are several very nice and ably written books describing the State and its people and also Guide Books giving useful information for travellers ; but hitherto no book on the Modern Geography of Kashmir has appeared in English, and the want of such a publication is much felt not only by strangers to the State but also by its inhabitants.

I have made an attempt in the following pages to give a brief Geography of Kashmir with the object of meeting the want indicated above. I have also collected in it facts in regard to past events and occurrences, viz., earthquakes, fires, famines, epidemics and floods, which important facts have thus been rescued from the great halls of oblivion, and have given lists of towns and ancient monuments together with the names of their founders and the dates when they were founded. I have also given a treatise on arts and industries for which Kashmir is so famous. These, I venture, will prove a valuable feature of this little book. I have also given detailed lists of different routes, and have briefly described everything I thought might be found useful and interesting.

In conclusion, I beg to add that remembering the Arabic proverb—*Man sanafa qadis-tahdafa* (an author is a target of criticism)—it seems, I am afraid, presumptuous on my part to venture on writing a book necessitating collection and elabora-

The small air-strip actually saved Srinagar from destruction by tribal invaders from Pakistan, for it was on this that Indian civil and air-force planes landed a full infantry regiment flown from Delhi on October 27, 1947. This regiment commanded by Col. Rai was responsible for hurling back the invaders from the outskirts of Srinagar.

Since then the air-field has been modernised and there is a regular daily air service run by the Indian Airlines. A new air-field capable of handling air-bus traffic will soon go into service.

3 The number of tourists visiting the State is indeed increasing year by year. During the period 1957-77 it went up from 43,000 in 1957 to 300,000 in 1977

tion of numerous facts from different sources. In doing this, errors might have crept in that call for adverse criticism. But I crave the indulgence of the reader for all the shortcomings assuring him that every possible care was taken in the verification of the facts from various authentic records.

Srinagar, Kashmir,
1st October, 1925

ANAND KOUL

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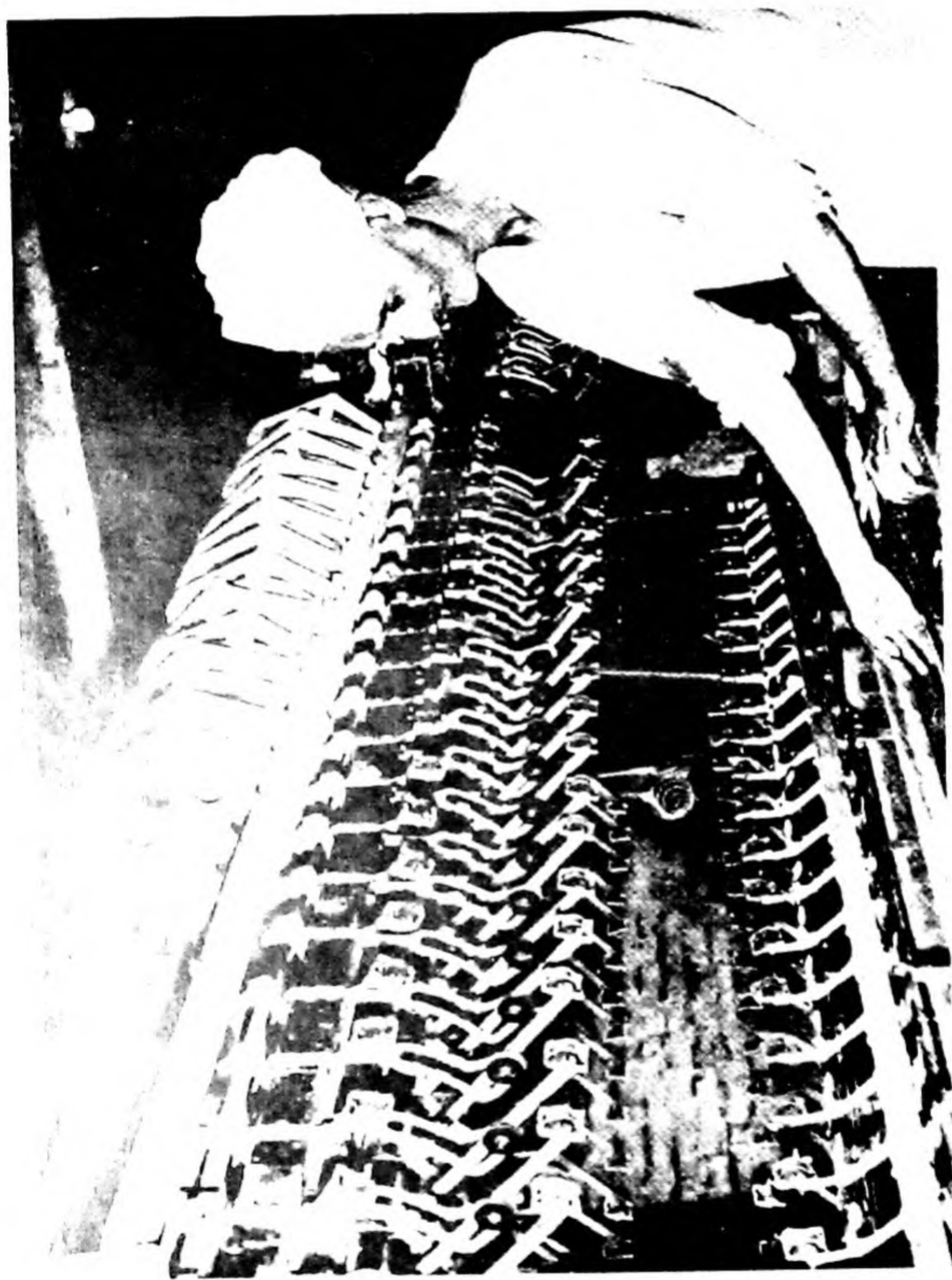
Working on a Papier Mache



Carpet Weaving



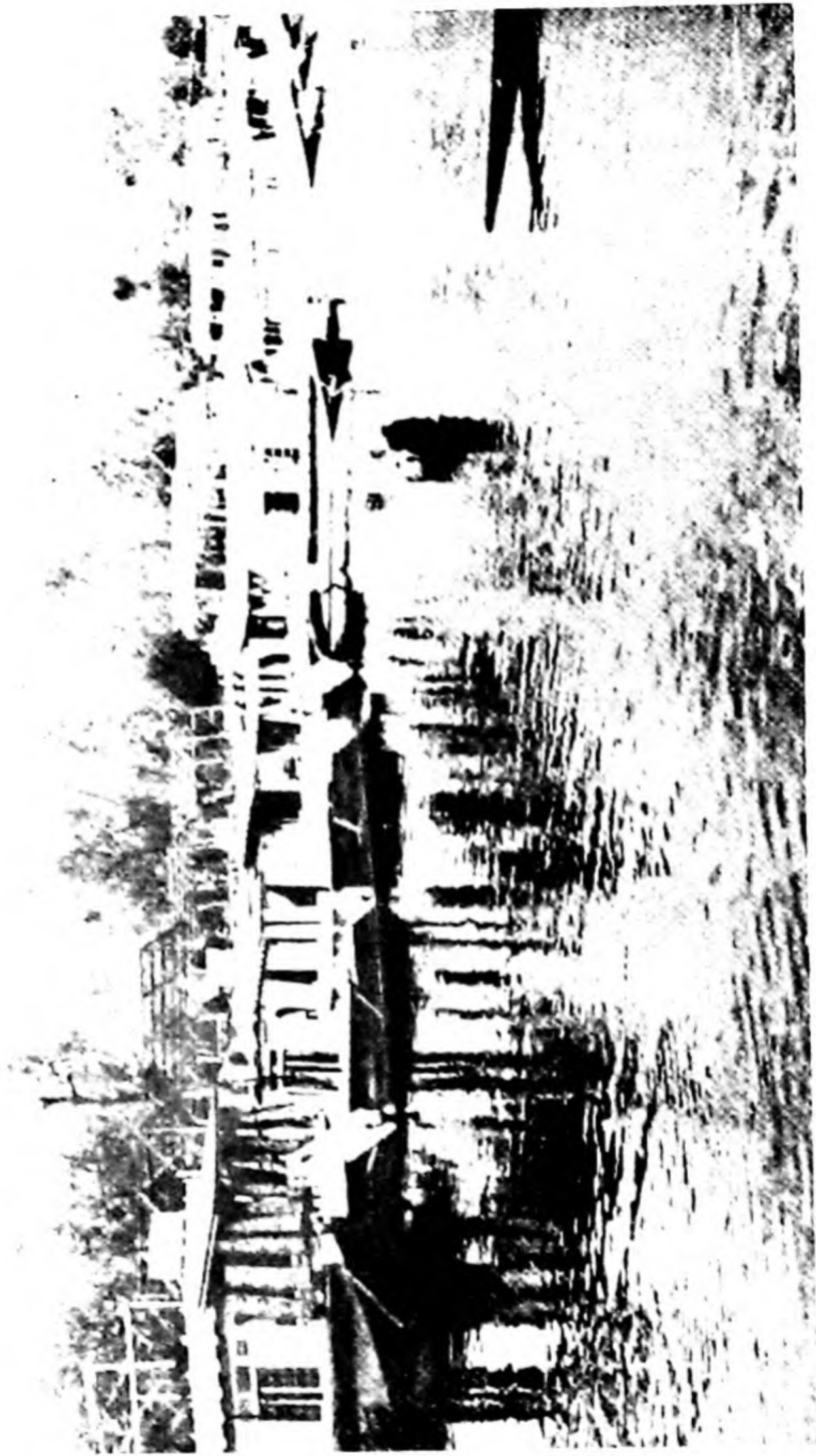
Wood Carving



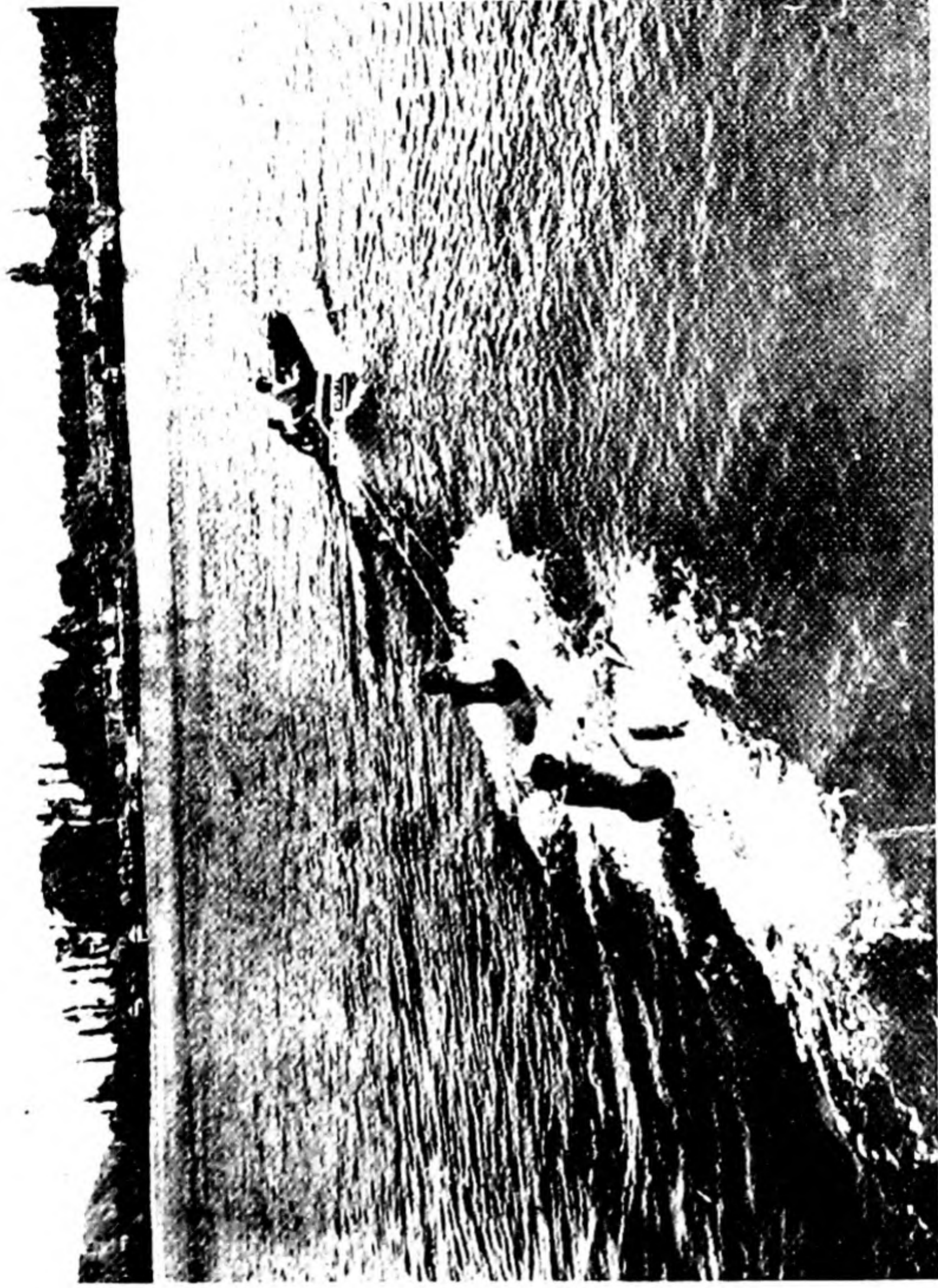
Reeling at the Silk Factory, Srinagar



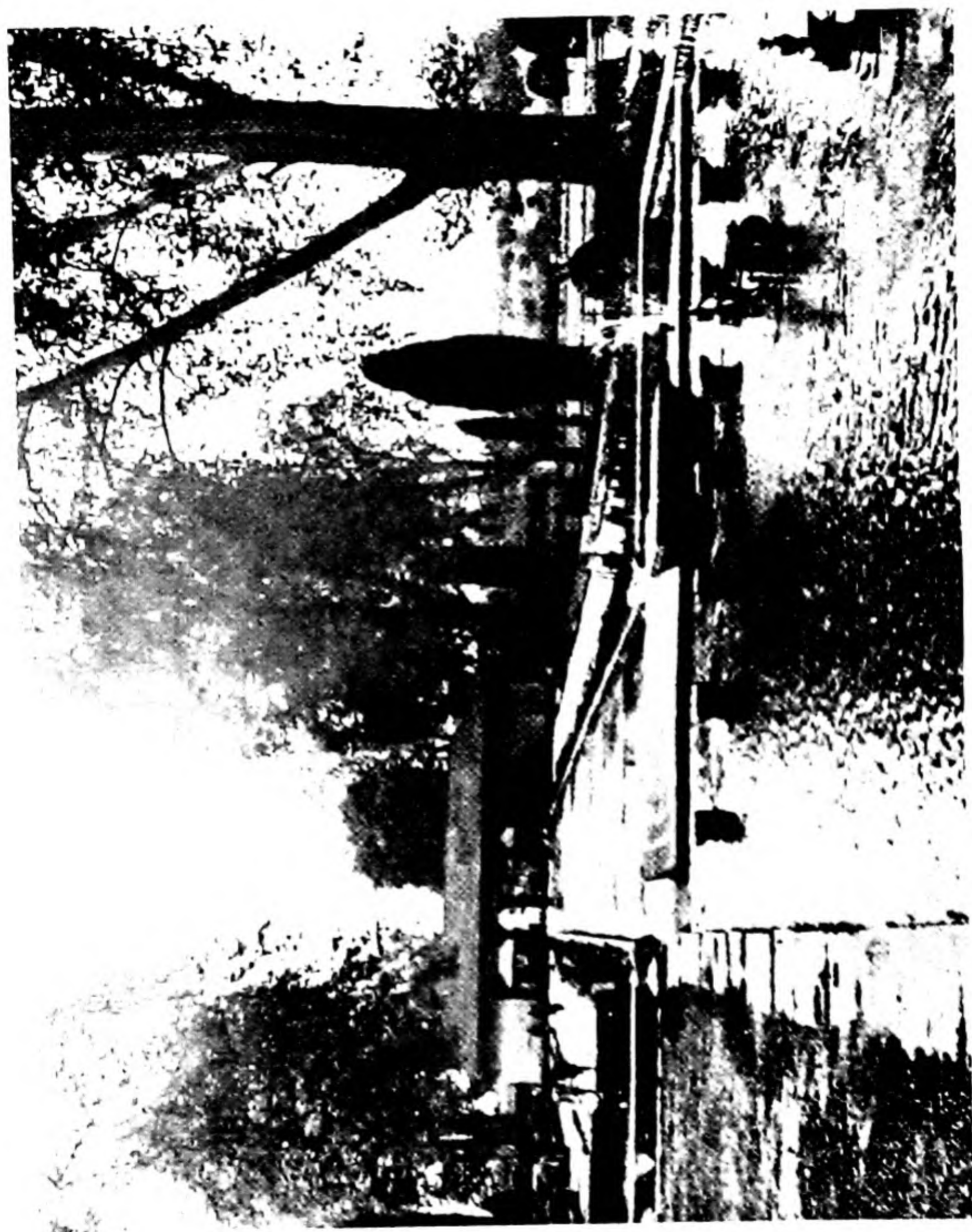
Shah Hamadan Mosque



Houseboats on the Dal Lake



Surf-Riding on the Dal Lake : A Great attraction for Tourists



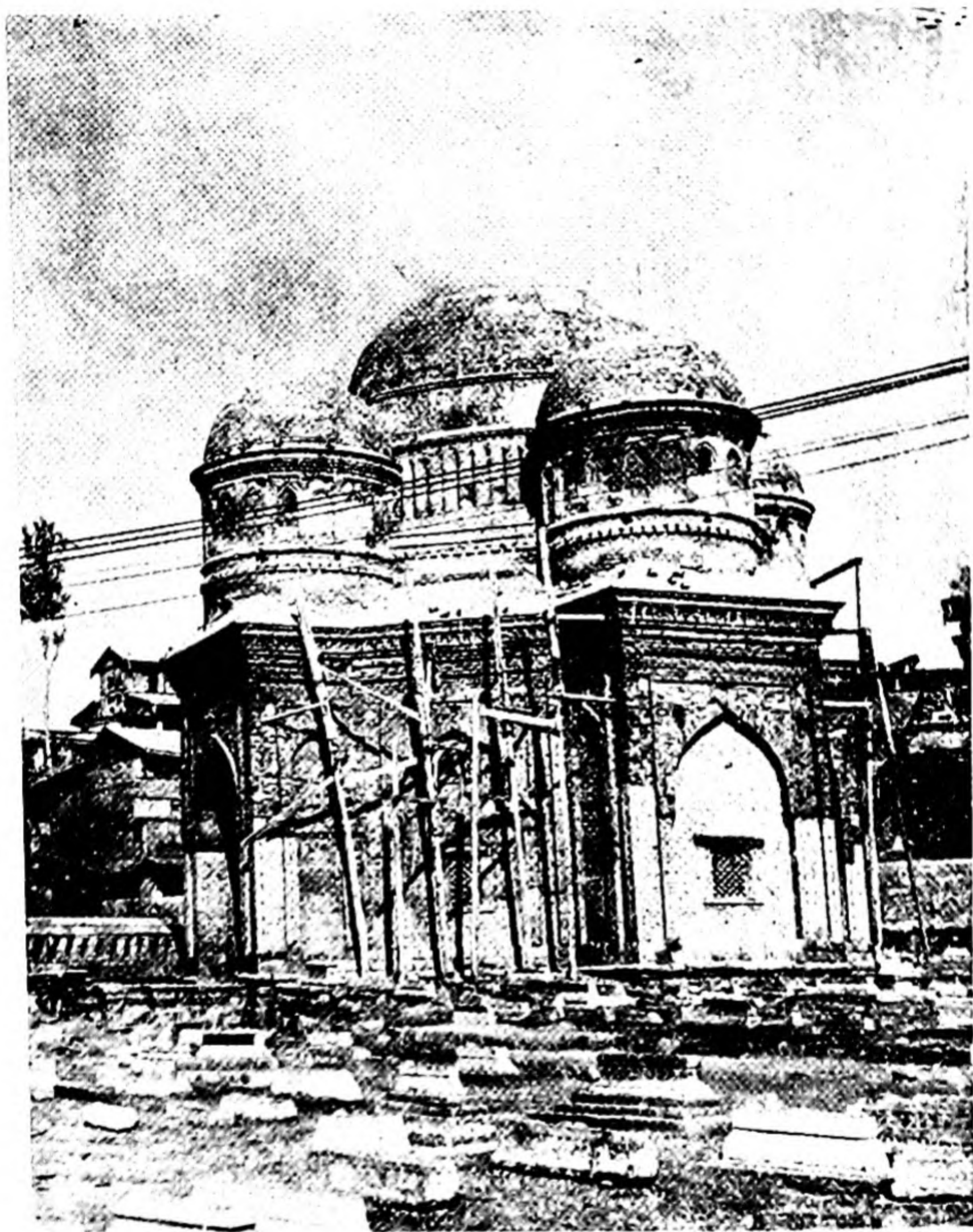
Shalimar Garden, Srinagar



Jama Masjid, Srinagar



Shankaracharya Temple, Srinagar



Bud-Shah Tomb



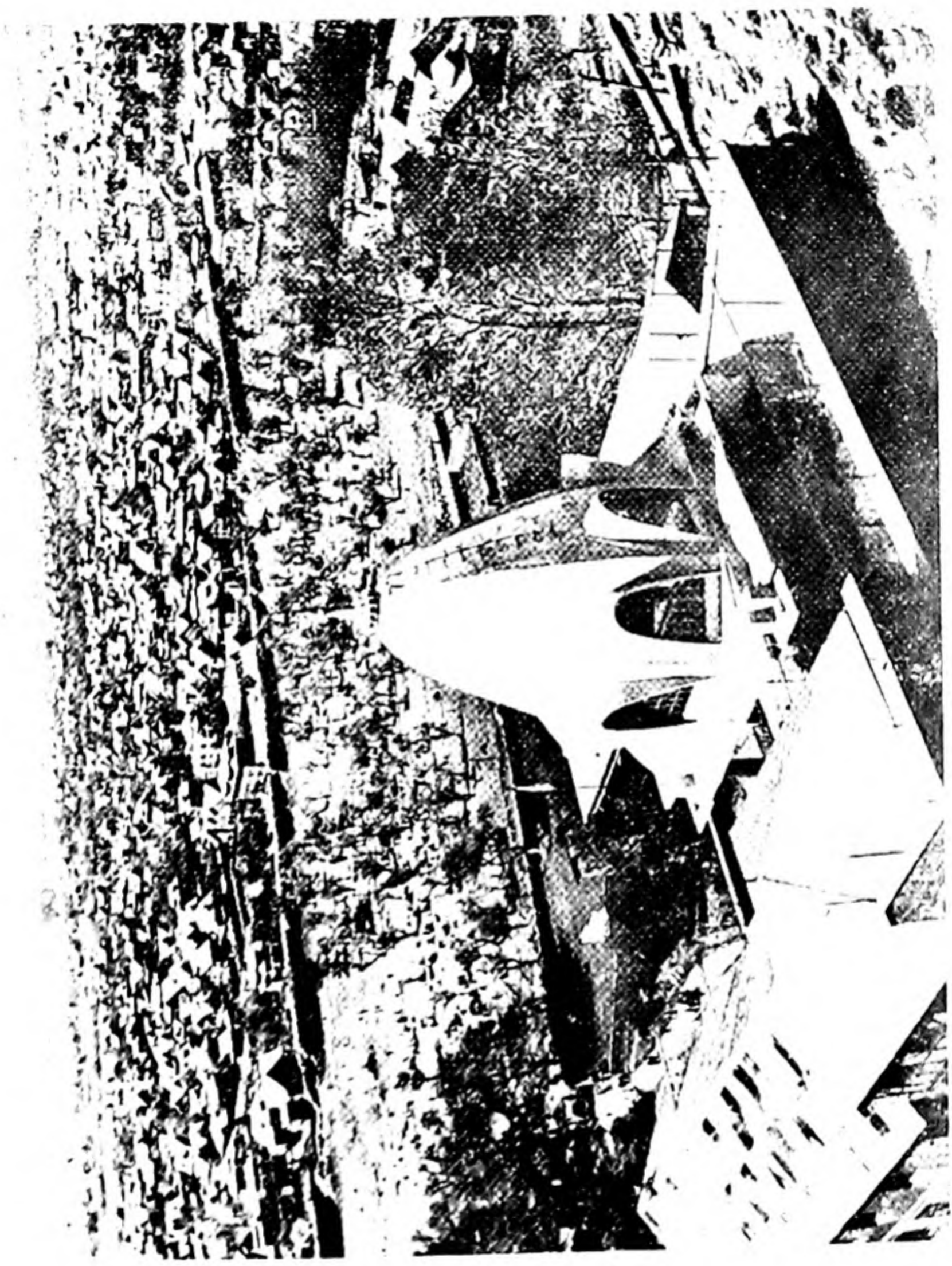
The Fort on Hari Parvat in Srinagar



Achbal Garden, Srinagar



The Kheer Bhavani Shrine at Tulamula



View from the Chakreshwar Shrine on Hari Parvat, Srinagar



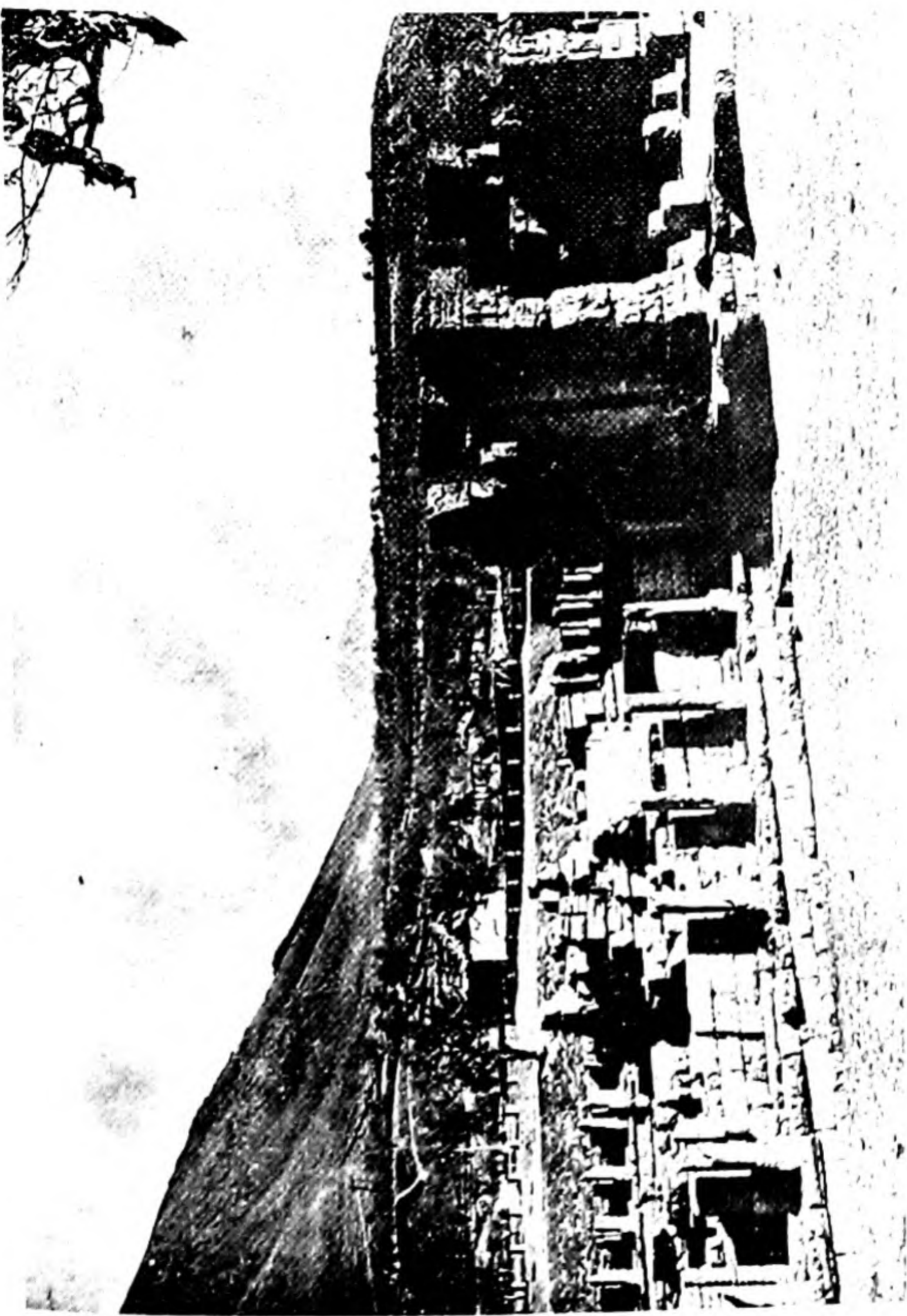
A Glacier on A Kashmir Mountain



The Temple at Mattan



Holy Cave of Amarnath



Ruins of an Old Temple, Avantipura

General Description

Kashmir is the name given to the territories of His Highness the Mahārāja of Jammu and Kashmir. It is the largest State in India, larger than the Nizam's territory; thrice as large as Mysore, twice as much as Gwalior and Bikaner put together, five times the size of Jaipur; ten times the area of Baroda, and a dozen times as much as Travancore.¹ It is again over $\frac{1}{6}$ th of the Punjáb² and about $\frac{3}{4}$ th of the United Provinces.³ Excluding Ireland, the

1 This refers to Princely States then in existence in India. There were 562 of these when India became free in 1947. All of them were incorporated in different states now forming the Union of India. It is pertinent here to give a rough idea of the size and population of the Princely States mentioned by the author for comparison to the Jammu & Kashmir State.

The Nizam's territory known as Hyderabad State had an area of 82,168 sq. miles and a population of (1931) 12,471,770. Mysore, now merged with Karnataka had an area of 29,489 sq. miles with a population of (1931) 5,859,952. Gwalior State, now a part of Madhya Pradesh, had an area of 26,008 sq. miles and a population of 3,195,476. Bikaner now in Rajasthan had an area of 23,311 sq. miles and a population of 584,627. Travancore, now forming a part of Kerala had an area of 7,661 sq. miles and a population (1941) of 6,070,018. Baroda, now merged with Gujarat had an area of 8,176 sq. miles and a population of (1941) 2,855,010. Patiala was a Princely State and is now a part of Punjab.

2 This refers to pre-Independence Punjab; area 99,089 sq. miles : population 33,922,373.

3 Now called Uttar Pradesh. Area : 113,423 sq. miles: Population (1951) 63,215,743.

2 *Jammu and Kashmir State*

British Islands are only a little larger in extent than Kashmir. It contains the divisions called (1) Jammu ; (2) Kashmir ; (3) Little Tibet⁴; and (4) Gilgit. It extends from 32° 17' to 36° 58' North latitude, and from 73° 26' to 80° 30' East longitude. It is bounded on the east by Chinese Tibet ; on the north by Yárkand and the Pámir ; on the west by Yágistán ; and on the south by the Punjáb. The size of the State is 400 miles long and 300 miles broad. Its area is 84,258⁵ square miles with a population of 3,320,518 souls of whom 1,757,122 are males and 1,563,396 females. The Hindus number 690,389, Muhammadans 2,398,320, Buddhists 36,512, Sikhs 31,553, and other religionists 1,354.⁶ Compared to other States the population of the Kashmir State comes to about $\frac{1}{4}$ th of that of Hyderabad, a little above that of Gwalior, about half as much as that of Mysore and more than double of that of Patiala. It is slightly below that of the adjoining Rawal pindi Division⁷ and about $\frac{2}{3}$ rd of the Lahore Divison. It is a little less than $\frac{1}{4}$ th of Bengal, a little more than $\frac{1}{8}$ th of Bombay, $\frac{2}{11}$ th of the Punjáb, and a little over $\frac{1}{14}$ th of United Provinces. The total revenue is about 2 $\frac{1}{4}$ crores of rupees.⁸ The greater portion of the country is mountainous. The country is naturally divided into three divisions : the one part to the south of the Pir Punjál range, another between the Pir Punjál and the range which divides Kashmir from Ladákh and Astor, and the third division is to the south of the Karàkoram mountains.

The Pir Punjál mountains separate the plains of India from Kashmir. They begin on the south-east at the Chenáb river and end on the north-west at the Jhelum river. The length of the range from Kishtwár to Muzaffarábád is about 120 miles. There are three chief divisions of the range which run parallel to each other. On the south are the outer hills on which the Jammu city is built. They begin with a height of 100 to 200 feet above the plains. On the north the mountains are very high, most of the

4 Ladakh was then known as Little Tibet.

5 This figure does not include the area of Gilgit Agency then directly under British administration.

6 For the latest population figures see the Introduction.

7 The Rawalpindi Division of the Punjab in Pakistan has an area of 11,832 sq. miles. Its population (1951) was 3,873,000.

8 The revenue of the State (1970-71) was over 68 crore rupees.

peaks being covered with snow most of the year. Their names are:

Bánihál	9,200 feet	At the south-eastern extremity of the range above Verinág.
Kaunsarani Kuthar or Vishnupád.	15,523 feet	These are three snowy peaks towards the west of Bánihál and are conspicuous with their tall pyramidal summits. These are also called Brahma peaks.
Rái Nyur		In the Deosar Pargana to the west of the Ahrabal waterfall.
Rupri Dárahál	13,000 feet 13,000 "	} Between Shupyan and Rajouri.
Pir Punjál	11,020 "	To the north of Dárahál above Hirapur.
Shupikur Káchagul Anawat	} } }	The Northern slope of Pir Punjál.
Tatakuti	15,524 feet	The highest snowy peak in the whole range, visible even from Lahore on clear days.
Tosamaidán	15,000 "	Between Kashmir and Punch.
Afarwat	14,500 "	Above Gulmarg.
Káji Nág or Káli Nág	15,524 "	In Uttar Machhipura.



4 Jammu and Kashmir State

In these mountains the following rivers take their rise, flowing down into the Kashmir valley :

<i>Name of river</i>	<i>Name of mountain from which it rises</i>	<i>Place of confluence with the Jhelum</i>
Vishau	Kaunsarani Kuthar . .	Sangam.
Rambi Ara	Shupikur, Pir Punjál, Rái Nyur and Rupari	Sangam and Kávni.
Romshi which divides itself into three stre- ams at Dànzab which are called M á m s h i, Khámshi and Romshi	Káchagul, Tatakuti and Anawat	Kákapur.
Dúdgānga	Káchagul	Chhatabal.
Sukha Nág which is joined by Firozpur nul- lah at Adin	Pálas and Tosamaidán	Trikulabal.
Ningal	Afarwat	Tárazu.

In these mountains are the following lakes which are at a great height :

Kausar Nág

In Kaunsarani Kuthar or Vishnupád. The Vishau takes its source from here and falls into a deep and picturesque channel which it has cut for itself in the bare rock, forming the

	finest cataract in Kash- mir, namely, Ahrabal.
Nandan Sar and Chandan Sar	Near Dárahál.
Anawat Nág and Rámasar	In Káchagul and Anawat.
Dudasar	In Káchagul.
Watasar	In Shupikur.
Tsuharsar or Indrasar	At Zajimarg.
Damámasar Ailapatar	In Afarwat.
Kasina Nág and Satagol Nág	In Bangas.
Káji Nág or Káli Nág, Ghurchan Nág, Nilapush Nág and Wán- ganwás	On Káji Nág.

The following rivers also take their rise in these mountains flowing towards the south :

Rávi, Uj, Tawi, Chenáb, Tawi-Manáwar, Punch river.

On the south side these hills are barren, but on their north side fine forests abound. On the north side these mountains rise like a wall from the Valley of Kashmir, but on the south they slope down gradually, so that their spurs and ridges cover a large district, called the middle hills, in which Kishtwár, Bhadrwáh, Basohli, Rámnagar, Udhampur, Riási, Rajouri, Kotli and Punch are situated.

Between the Kashmir valley and Little Tibet there is a lofty range of mountains. Their names are :

	<i>Feet</i>	
Nanga Parbat or Deomar	26,629	In Astor, the 8th highest mountain in the world.
Nasta Chhenu	9,300	On the way to Karnáh.
Trágbal or Ráz- dániangan	11,950	Between Bandipur and Gures.

6 Jammu and Kashmir State

	<i>Feet.</i>	
Burzila or Burzabál	13,500	} Between Gures and Astor.
Dorikun	13,500	
Harmukh	16,890	In the Lár Pargana.
Zojila or Zojibál	11,300	Between Sonamarg and Drás.
Mahádev	11,500	Above Dáchhigám.
Nankun	23,410	In Suru.
Lidarwat	10,000	Between Pahalgám and Dáchhigám, 12 miles to the north of Pahalgám.
Kolahoi	17,827	To the west of Lidarwat.
Amar Náth	17,890	Four marches to the east of Pahalgám.
Kohenhār	17,000	To the south of Amar Náth.
Gáshabrár	17,836	To the west of Amar Náth.
Harbhagwán	16,055	To the north of Sásakat mountain.
Margan	11,600	To the south of the Kohenhār peak on the way to Mariv-Wárwan.
Marbal	11,570	To the south of Margan on the way to Kishtwár.
Hukhasar	15,060	Between Brang and Mariv-Wárwan.
Brári Bál	14,300	Between Shāhábád and Doda.

These are a continuation of the main range of the Himalayas. They separate the valleys of the Chenáb and the Jhelum from the valley of the Indus. In this range are very few passes. The lowest in them is the Zojila. On the east there is the Bhotakot pass and on the west there are passes between Gures and Astor called the Burzil and the Dorikun.

The following rivers take their rise in these mountains, flowing towards the Kashmir valley :

<i>Name of river</i>	<i>Name of mountain from which it flows</i>	<i>Place of confluence with the Jhelum</i>
Sándren	Brári Bál	} Khanabal.
Bringi	Hukhasar	
Arapati	Margan	
Liddar or Lambú-dari	Kohenhar	
Arpal	—	Tsráligund above Charsu.
Tsunti Kul	Mahádev	Dubji opposite the Shergadhi Palace.
Sind	Zojila, Amar Náth and Harmukh	Shádipur.
Arin	Harmukh	Near Bandipur.
Madamati	Do.	Bandipur and Kulsu.
Pohru constituting Kahmil, Tálar Máwar and Hamal joining it at Bamaháma, Chogul, Dukulabal and Hib Dángarpura, respectively.	Káji Nág	Duábágh.

8 *Jammu and Kashmir State*

In these mountains are the following lakes which are usually at a great height :

Shishram Nág	}	On the north of Kohénhár near Mahágunas hill.
Zámatari Nág		

Hatiár Taláv		Above the Sásakat mountain (14,950 ft.)
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Kemsar		Just below the Yemher pass on the left side, 21 miles to the north of Pahalgám.
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Társar	}	These two lakes are divided by a high hill. The water of Tarsar runs towards Lidarwat and falls into the Liddar river while that of Marsar runs towards the Dáchhigám valley and is the source of the water works of Srinagar.
Mársar		

Chandrasar		In the Mahádev mountain range.
------------	--	--------------------------------

Brahmasar	}	In the Harmukh mountain range
Nund Kol		
Ganga Bal		
Kolasar		
Khirasar		
Dudasar		
Gagasar		
Kánasar		
Dothasar		
Satasar		
Nilasar		
Nilabhawan		
Talávbal		
Sálansar		
Yamalsar		

Further west are the sources of the Kishen Ganga river which joins the Jhelum at Domel, namely :

Krishnasar	Gádhasar	Sáransar
Vishnasar	Yamasar	Kodurisar
Prangasar	Satanisar	Satgúl Nág

The sources of the Wárwan river further east are :

Sarbal	Khelan Nág	Tsuhar Nág
Hukhasar	Kaluser	Sonasar

On the north side are the Zanskár, Suru, Drás, Shingo, and Astor rivers. These are all tributaries of the Indus river.

Karákoram is a very high range of mountains which forms the frontier of the Mahárája's territories on the north. They are continuous with the mountains on the north of Tibet and on the west they join with the Hindukush mountains which divide Badakhshán from Afghánistán. Of the mountains on the north of Tibet very little is known, but there are several passes between Ladákh and Yárkand. These are all very high. They are the highest *caravan* roads in the world. The passes are between 18,000 and 20,000 feet above the sea, and the peaks rise from 25,000 to 28,000 feet high, out of which K² (28,278 ft.) is the second highest peak in the world. There are two chief routes, that by the Changchenmo and that by the Shiyok valley. These lead from Leh to Khotan or Yárkand. On the west between Skardu and Yárkand there was a pass which, owing to a difficult glacier, has for the last 50 years been disused. In the mountains further west there are several paths between Hunza and Gilgit on the south and the Pāmir and Badakhshán on the north. In these mountains are the Harmukh (24,285 ft.), in Gilgit and Rakipushi (25,550 ft.) in Hunza. The Indus with its branches, the Shiyok and the Naubera, the Shigar and the Gilgit river take their rise in these mountains.

I

WATER-SHED RANGES

The Kiunlun and Karákoram separate the rivers of Kurákásh and Yárkand which flow in Turkistán, from those flowing in the Frontier Districts.

The mountains of Swát and Yásin separate the Indus from the Kábul river.

The Nunkun extending on to Spiti, Láhoul, Zánskár, Amar Náth and Burzila separates the rivers of Jammu and Kashmir from those of Ladákh.

The Harmukh, Trágbal and Káji Nág separate the Jhelum from the Kishengunga.

The Kaplás and Shivaji mountains, connecting with the mountains of Chamba, separate the Chenáb from the Rávi.

The Bánihál and Pir Punjál ranges separate the Jhelum from the Chenáb.

II

PASSES

The following is the list of passes over the mountains in the State :

<i>Name of Pass</i>	<i>Between which places situated</i>
Bánihál	Jammu and Kashmir.
Muhu Guláb-garh	
Konsarnág Budal	
Pir Punjál	Kashmir, Punch and Bhimber.
Firozpur	
Dárahál	
Tosamaidán	
Háji Pir	Kashmir, Ladákh and Skardu.
Zojila	

Mastagh of Kará-		Ladákh and Turkistán.
koram		
Rajdáníangan		Kashmir and Gures.
Burzil		Kashmir and Gilgit.
Marbal	}	Kashmir and Kishtwár.
Hoksar	}	
Margan	}	
Bhotakot	}	Kishtwár and Kargil.
Panila	}	
Nira	}	Ladákh and Zánskár.
Sangi		
Rangla		
Amásibardár	}	
Barálácha	}	Ladákh and the Punjál.
Lachulang	}	
Sankola	}	

III

ALTITUDE

The plains on the south of the Pir Punjal vary from 1,000 to 2,000 feet above the sea. Many portions of these districts adjoining the outer hills are very fertile. We may mention the districts of Kathua, Jammu and Udhampur on the east of the Chenáb; and Riási and Mirpur between that river and the Jhelum.

The elevations above the sea-level of different places in the State have been given under "Routes".

There are valleys among the mountains, such as Punch and Rajouri, and in the valleys of the Upper Chenáb, Rámban and Bhadrwáh. They are rough and rugged in character, sparsely inhabited, and poorly cultivated—small patches of land only being fit for tillage.

The produce of these districts varies according to their altitude. Thus below 2,000 feet the crops of those of the Punjáb, such as sugarcane and plantain, as well as such grains, as are met with in higher altitudes, grow. Probably tea plant might be advantage-

ously grown. In this district cotton plant thrives. On the sides of the hills maize, wheat and barley are extensively cultivated and the forests of pine and deodár are a source of wealth to the State. A large variety of forest trees are met with, such as oak, horse-chestnut and spruce, especially on the northern slopes and afford shelter to various species of birds and animals, most of which are found in Kashmir. In ascending these mountains one passes successively through different stages of mountain vegetation, and, on nearing the summit, the pines, the firs and shrubs vanish, it being above the limit of forest growth, and there is nothing but stunted grass, rocks, fallen stones and, on the highest parts, unmelted snow.

IV

CLIMATE

The Jammu province, being for the most part continuous with the level of the Punjáb, has the tropical heat and shares with it the periodical rainfall. In Kashmir there is no periodical rainfall, but there is rainfall enough for all crops. The Frontier Districts⁹ are almost rainless and no crops can be raised without irrigation. For the past twenty years the average annual rainfall of Kashmir, Jammu and Frontier Districts is 27.24, 41.79, and 4.39 inches respectively. In Little Tibet,¹⁰ which is one of the loftiest inhabited places in the world, the summer is warm, but in winter the cold is of almost Arctic intensity.

Kashmir is situated actually in the sub-tropical area, but, owing to its high altitude, it is cold; consequently the weather varies between two extremes of temperature and the changes are frequent and sudden. The proverb "*Kashmir, pankha postin*" (in Kashmir one must have fan and fur together) is true enough. In winter snow falls heavily and the frost is severe, by which lakes and rivers are sometimes frozen over. The river Jhelum was frozen over in the winters of 1658, 1759, 1764, 1780, 1816, 1835, 9th December, 1879 and 1st February, 1895. The winter

⁹ This refers to Ladakh and Gilgit areas.

¹⁰ Ladakh was then designated as Little Tibet.

of 1759 A.D. got so much prolonged that the Jhelum was frozen over till as late as 31st March, which is given in the following couplet :

Káh shat tah dusatat os sanai
Hutimi navime lajiye Veth

1172 (Hijra i.e., 1759 A.D.) was the year
 On the 9th of Pisces (31st March) the Jhelum got frozen over.

The spring, though wet, is pleasant, the fresh green tints of the trees and the mountain-sides being refreshing to the eye ; the summer is hot though not oppressive, and the autumn is dry and healthy.

The Kashmiris divide the year into six seasons, viz., *Sont* spring, *Retakol* summer, *Waharát* rainy season, *Harud* autumn, *Wandah* winter, and *Shishur* frosty season. Thunderstorms occur at the end of *Shishur* which mark the transition of this season to *Sont*.

At the Jammu town wind called *Dadú*, blows at night and in the morning, and in summer afternoons there is a periodic hot wind blowing which is called *Loh*.

The air in Kashmir is generally calm. Storms sometimes arise. The wind blowing from a particular direction has got its own name. The north-easter is called *Viji Wáw*, north-wester *Kámráz*, western wind *Nát*, eastern wind *Sindabat*, southern wind *Bánahál*, and northern wind *Nágakon*. Red twilight in the morning presages rain, and red sunset is a sure prelude to fine weather. White clouds are sure to bring heavy rain but dark clouds mean a thunderstorm and a little rain. A strong wind, called *Chang*, blows down the Jhelum Valley Road throughout the winter. The climate of the Kashmir valley is, on the whole, salubrious and invigorating. Sings a poet :

Har sukhta Jane ki ba Kashmir áaráyad
Gar murgha kabáb ast abá bálu-par áyad.

Any burnt creature entering Kashmir,
 Even if a roasted fowl, it shall grow feathers.

The Valley is gay with greenery and flowers of diverse kinds in spring and summer, and in autumn the trees are resplendent in the gorgeous colouring and laden with delicious fruits.

V

GAME

Ibex are numerous in Little Tibet ; Markhor in the Gilgit district and stags, leopards, bears, wolves, beech marten, musk shrew, water shrew, flying fox, flying squirrel and *serow ramu* in Kashmir. Brown bears are less numerous than black. Tibetan antelope and gazelle and ovis ammon are to be found in the great plateaus between Ladákh and Chinese Tibet. Chikor, ducks, cranes and other game birds are numerous in Kashmir. Fish are plentiful. Trout-culture has been started in the Harwan and Achhabal streams in Kashmir.

VI

MINES

There is a lot of mineral wealth in the State. Coal, though of an inferior quality, and iron ore are to be found in the Riási Tehsil. There is a mine of sapphires at Pádar. Salt, in a crude form, which can however be purified; is dug up in Ladákh and is also obtained from salt lakes there. There is a mine of sulphur at Pinga in Ladákh. Gold is obtained from sand washings at Gilgit, Kargil and Skardu. There is also a mine of iron ore at Shár in Vihi, at Harwan in Zainagir, at Tshuhan in Sháhábád, and at Yashar and Sof in Brang. Crystal is to be found in several places in the Kashmir mountains and copper near Aishmuqám. There are limestones in many places, principally near Rámpur and the Mánasbal lake, and also China clay at several places in the Jammu Province.

VII

IRRIGATION

The Valley of Kashmir abounds in natural watercourses and therefore artificial means of irrigation are not generally employed. Only four canals viz., the Matan canal from the Liddar river, the Sharáb Kul from the Hárwan river, the Sháh Kul from the Sindh, and the Lál Kul from the Pohru have been excavated for irrigating high lands.¹¹

In Jammu Province there is much need of canals. Several have already been constructed, which have converted large tracts of arid and barren land into flourishing fields of corn. A canal on a grand scale has been excavated from the Jhelum near Mangla (Mirpur tehsil) by the British Government, which cost about three crores of rupees. It waters a very large area in British Indian territory, but so far as it passes within the State limits, it supplies as much water as is required therein for irrigation. The State has excavated two canals from the Chenáb near Akhnur: one, called Pratáp canal, waters a large area from Akhnur to Hamirpur and Sidhar, and the other, called Ranbir canal, from Akhnur to Jammu and thence penetrating the Tawi river by a sub-terraneous passage—a marvellous piece of engineering skill—waters the whole Tehsil of Ranbirsinghpura. Another, called Kashmir canal, has been excavated from the Rávi near Basantpur, which irrigates a part of Kathua tehsil.

In the Frontier Districts, the rainfall being a negligible quantity, the crops are entirely dependent on artificial watercourses which have been constructed wherever practicable.

11 *See* also the Introduction for irrigation facilities in the State.

VIII TOWNS

The most important towns are Srinagar and Jammu. The following is the list of all the towns in the State :

<i>Town</i>	<i>Population</i>		<i>Remarks</i>
	<i>1971</i>	<i>1921</i>	
Srinagar	403,612	141,735	Founded by Pravarasena II, who ruled in Kashmir from 79 to 139 A.D.
Sopur	27,695	8,514	Founded by Suyā during the reign of Avanti-Varman (855-883 A.D.).
Bāramulla	26,342	6,599	Being the place where articles of merchandise to and from Kashmir mostly go by boat, it has become the chief forwarding station of trade. ¹²
Bijbihāra	8,502	4,424	Founded by King Vijaya (114-106 B.C.).
Anantnāg	27,669	9,019	This place was called Ananthnāg after the name of the spring here. In 1664 A.D. Islām Khan a Mughal Governor, laid out a garden here for the Emperor Aurangzeb and the latter being pleased with it called the town Islāmābād after the name of the the Governor. Mahārāja Gulāb Singh changed its name again into Anantnāg.

¹² This was when the Jhelum Valley Cart Road was in operation. With the closure of this road beyond Uri, the importance of Baramulla as a trading centre has been reduced considerably.

Town	Population		Remarks
	1971	1921	
Shupyan	7,822	2,114	—
Pámpur	8,582	3,348	Founded in 812-849 A.D. by Padma, Minister of King Ajatapida. Saffron is produced on the plateau above the town.
Muzaffarábad*	NA	3,462	Founded by Muzaffar Khán, a local chieftain, in 1554 A.D.
Jammu	155,249	31,506	Founded by Jambu Lochan (2700 B.C.).
Kotli*	NA	1,584	—
Mirpur*	NA	6,640	It is a centre of trade and the headquarters of the Revenue and Judicial Officials of the District.
Rámpur Rajouri	5,933	2,192	The ancient Rajpuri which has always played an important part in the political history of Kashmir.
Bhimber*	NA	1,538	A centre of trade on the highway to Kashmir. Used to be headquarters of Chib Rájás.
Akhnur	5,326	3,033	Situated on the right bank of the Chenáb. Was once a market of timber borne down from the hills by the Chenáb, which market is now removed to Wazirábád. Mahárája Guláb Singh was installed as Rájá of Jammu by Mahárája Ranjit Singh here.

* Under illegal occupation of Pakistan.

Town	Population		Remarks
	1971	1921	
Sámba	5,881	2,307	The old palace here was built by Rája Suchet Singh, brother of Mahárája Guláb Singh. The town is noted for floor print cloth called Sámba <i>Shahi masnad</i> .
Kathua	17,436	5,112	Headquarters of the Revenue and Judicial Officers of the District.
Basohli	3,296	1,954	Situate on the right bank of the Rávi. Was once the capital of Balávar chieftains.
Udhampur	16,390	2,360	Was once the headquarters of Phalwáls. Called after the name of Mahárája Guláb Singh's eldest son, Udham Singh. Is a centre of trade, chiefly of ghee, which is brought here from the surrounding hills, where buffaloes and cows find abundant grass to graze upon and is also headquarters of Revenue and Judicial Officials of the District.
Rámnagar	3,474	2,073	Was once the capital of Bandrála Miáns. In Rája Suchet Singh's time the place was in a prosperous condition. The late Rája Sir Rám Singh held it as Jágir and is now incorporated with the State. The fort and the palace here are worth seeing.

Town	Population		Remarks
	1971	1921	
Riási	3,879	1,905	There is a fort here in which the reserve treasury used to be kept. A fine garden is attached to the Mahārāja's palace here. Before Kashmir came into Mahārāja Guláb Singh's possession this place formed his summer headquarters. It is the birth-place of the late Mahārāja Pratáp Singh.
Kishtwár	5,282	2,378	Saffron is produced here, but is of an inferior quality. The place is also noted for opium. The Illáqa of Kishtwár was annexed by Mahārāja Guláb Singh after defeating the Rája of this place, Teg Singh, <i>alias</i> Saif Khan, in 1843 A.D.
Punch	11,967	7,662	Founded by King Lalitá-ditya (697-734 A.D.) It is the Jágir of Rája Sukhdev Singh.
Bhadrwáh	5,213	2,563	Noted for opium, and deodárs.

The Routes

There are three main routes to Kashmir from India, namely, Jhelum Valley Road, Shupyan Road and Báníhál Road. The Jhelum Valley Road being a cart-road, 196 miles long, on which one can travel in one day from Ráwalpindi to Srinagar by motor car, and in two days by tonga, is most commonly used by travellers. Its construction was completed in 1890. It is spoken of by competent judges as being one of the finest mountain roads in the world. The volume of trade also passes by this road in bullock carts and ekkas. There is one *serai* at Gojra village near Muzaffarábád and another above Uri at the Paranpila village on the right bank of the river, which were built by the Mughal Emperor Jahángir. The Shupyan Road was once the highway along which the Mughal Emperors used to migrate to Kashmir, but now is a mere skeleton of a road, being very rough and even dangerous in many places. Ladies must travel in *dandies* and the sterner sex might go on ponies except in certain parts of the passes where the wayfarer's own lower limbs are the safest and most reliable means of progression. The *serais* for travellers, built by Ali Márdán Khán, a Mughal Governor of Kashmir, for Sháh Jahán at different stages in 1651-58 A.D., are in as dilapidated a condition as the road itself. The Báníhál Cart Road is in a fairly good condition. The scenery all along the route is very grand and magnificent.

The following is the list of stages with distances of main

routes to Kashmir and the Frontier Districts :

(1) Rawalpindi to Srinagar via Murree

Baráko		13½ miles
Tret		12 „
Murree	(7,457 ft.)	13¾ „
Phagwári		14 „
Kohála	(2,000 „)	13½ „
Dulái	(2,180 „)	11¾ „
Domel	(2,320 „)	9½ „
Garhi	(2,750 „)	12¾ „
Hatián		11 „
Chakothi	(3,780 „)	11 „
Uri	(4,425 „)	13¼ „
Rámpor	(4,825 „)	14 „
Báramulla	(5,170 „)	15 „
Pattan	(5,200 „)	17 „
Srinagar	(5,250 „)	17 „

(2) Hasan Abdal to Srinagar via Abbotabad

Abbotábád (2,200 ft.) to Mánsera	16 miles
Garhi Habibullah	18 „
Domel	14 „

From Domel *vide* Route No. 1.

(3) Gujrat to Srinagar via Bhimber

Bhimber	28 miles	
Saidábád Serái	11 „	A sandstone hill, called Aditak, to be crossed.

Naushehra	10 miles	Another sand-stone hill, called Kamán Gosha to be crossed.
Chingas Serái	11 „	
Rajouri	13 „	
Thana Mandi	13 „	
Bahrám Gala	10 „	Rattan Pir (8,300 ft.) to be crossed.
Pushiána	10 „	
Aliábád Serái	11 „	Pir Punjál to be crossed.
Hirpor	11½ „	
Shupyan (6,715 ft.)	7 „	
Rámuh	10 „	
Srinagar	16 „	

From Saidábád there branches off a road leading to Kotli, the stages of which are as follows :

Dharamsál	18 miles
Khuiratta	7½ „
Dhana	7½ „
Kotli (see route No. 4)	6 „

From Thana Mandi another road leads to Punch by the following stages :

Suran	14 miles
Punch (see route No. 4)	14 „

(4) Jhelum to Srinagar via Punch

Gutálián	10 miles
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Tangrot	14 miles
Chomakh	10 „
Biari	8 „
Sainsa	14 „
Kotli	16½ „
Sehda	12 „
Punch (3,300 ft.)	10 „
Kahuta	10 „
Aliábád	7 „
Haiderábád	7 „
Uri	10 „

From Uri *vide* Route No. 1.

(5) Jammu to Srinagar via Banihal¹

Jhajar	19 miles
Udhampur (2,500 ft.)	21 „
Dharmthal	13 „
Batot (5,200 „)	22 „
Rámban (3,535 „)	17 „
Rèmsu (4,070 „)	16 „
Bánihal (5,580 „)	10 „
Verinág (6,000 „)	13 „
Anantnág	17 „
Avantipura	15½ „
Srinagar	18½ „

¹ The route was upgraded to a cart road in 1916 but since it remained snow-bound during winter months very little traffic passed over it. The main link with the railhead at Rawalpindi from the Valley was the Jhelum Valley Cart Road. With the closure of the road following the tribal invasion in 1947, the Banihal road now forms the main road link with the rest of India. A low-level tunnel opened in 1956 keeps it open all the year round.

(6) Jammu to Srinagar via Akhnur

Akhnur	(1,142 ft.)	18	miles
Chowki Chora	(2,150 „)	14	„
Thanda Páni		10	„
Dharmśála		10	„
Siálsui		10	„
Rajouri	(3,094 „)	12	„
From Rajouri <i>vide</i> Route No. 3.			

(7) Srinagar to Ladakh via Zojila

Gándarbal	(5,230 ft.)	14 $\frac{1}{4}$	miles
Kangan		11 $\frac{1}{4}$	„
Gond		13 $\frac{3}{4}$	„
Sonamarg	(8,650 „)	15 $\frac{1}{4}$	„
Báltal		9	„
Matáyan		15	„
Drás	(10,000 „)	13	„
Thasgám	(9,296 „)	15	„
Chuni Gund	(8,675 „)	15	„
Kargil	(8,787 „)	8	„
Shargol	(10,290 „)	16 $\frac{3}{4}$	„
Kharbu	(11,890 „)	19	„
Lámayuru	(11,520 „)	15 $\frac{1}{4}$	„
Khalsi		10	„
Nurullah		8 $\frac{1}{4}$	„
Saspola		14 $\frac{3}{4}$	„
Nimu		11 $\frac{1}{2}$	„
Pituk		14	„
Leh	(11,500 „)	4 $\frac{1}{4}$	„

(8) Srinagar to Skardu via ZojilaSrinagar to Thasgám (*see* route No. 7).

Har Drás	18 miles
Ulding Thang	19 „
Tarkati	14 „
Kharmang	17 „
Tulti	12 „
Parkota	14 „
Gol	12½ „
Thurgu	14 „
Skardu (7,440 ft.)	7 „

(9) Srinagar to Gilgit via Burzil

Shálateng	5 miles
Sumbal	10¾ „
Bandipur (5,300 ft.)	19 „
Trágbal (9,160 „)	12 „
Gurai	13 „
Gures (7,800 „)	15 „
Pushwári	14 „
Burzil Chowki (10,740 „)	11 „
Chillam	17 „
Gudhai	16 „
Astor (7,853 „)	17 „
Daskin	14 „
Doián (8,720 „)	11 „
Bunji (4,631 „)	18 „
Pari	18 „
Gilgit (4,890 „)	19 „

From above Gures as far as Gurikot of Astor there is another road leading over the Kamri pass, the stages of which are as follows :

Kamri	15 miles
Kálápani	14 „
Shankargarh	10 „
Rattu	15 „
Gurikot	15 „
Astor	6 „

There are other routes also, but they are very difficult and used only by the Zamindárs living in adjacent villages on either side of the passes. They are :

(1) Srinagar to Punch via Firozpur

Nárabal	10 miles
Mágám	6 „
Firozpur	12 „
Banabalinág	11 „
Gagri	14 „
Punch	8 „

(2) Srinagar to Punch via Tosamaidan

Vater Shel	14 miles
Zánigám	6 „
Tosamaidán	7 „
Sultán Patri	16 „
Biárah	5 „
Mandi or Rájpur	7 „
Punch	13 „

(3) Srinagar to Punch *via* Dubjan

Shupyan 26 miles.

Dubjan and across the Shupikur pass to Punch 60 miles.

(4) Srinagar to Rajouri *via* Darahal

Shupyan across the Dárahál pass through Nandansar meadow and Hastivanj. Total distance 104 miles.

(5) Srinagar to Jammu *via* Budal

Shupyan	26	miles
Názimgadhi	11	„
Dili	14	„
Budal	16	„
Bhagoli	5	„
Náru	8	„
Chil	12	„
Bowli	8	„
Akhnur	8	„
Jammu	18	„

(6) Srinagar to Budal *via* Fatun Panjal

Shupyan	26	miles
Watu across the Fatun Panjál	12	„
Kungwatan	3	„
Hamsán	10	„
Budal	10	„

(7) Srinagar to Jammu *via* Khuri

Shupyan	26	miles
Khuri	12	„
Gogalmarg	11	„
Gulábgadh	11	„

Angril	9	miles
Táru	14	„
Arnás	10	„
Riási	16	„
Dhera	8	„
Nagrota	21	„
Jammu	9	„

(8) Srinagar to Jammu via Danau

Shupyan	26	miles
Khuri	12	„
Danau across the Didmi pass	15	„
Marbal	14	„
Báranhál	24	„
Joining the route No. 7 at Angril	10	„

(9) Srinagar to Jammu via Khulnarvav

Shupyan 26, Khulnárváv 14, Danau, across the Mahu hill and Káwan 14, joining the Bánihal route at Rámsu 10 miles.

(10) Srinagar to Doda via Braribal

Verinág	50	miles
Across the Bráribál pass Boharkhan	60	„

(11) Srinagar to Kishtwar via Marbal

Anantnág	34	miles
Ságám	14	„
Across the Marbal pass		
Singhpur	24	„

(12) Srinagar to Mariv via Famar

Anantnāg	34	miles
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Disu	15 miles
Across the Hukhasar pass	15 „
Fámar meadow	15 „
Mariv	15 „

(13) Srinagar to Warwan via Hirabal

Anantnág	34 miles
Thimran Dardapur	20 „
Suknáz across the Hirabál pass	20 „

(14) Srinagar to Kishtwar, Bhadrwah, Basohli and Pathankot

Anantnág	34 miles
Achhabal Garden	5 $\frac{3}{4}$ „
Khárapura	8 $\frac{1}{4}$ „
Láran	4 „
Disu	3 „
Bona Khodin	4 „
Top of Simthan pass	4 „
Chanangám	10 „
Chhatru	7 „
Mughal Maidán	10 „
Kishtwár	4 „

From Kishtwár this route branches off to Páder (49 miles).

Kándni	9 miles
Jangalwár	9 „

From Jangalwár this route branches off to Batot (43 miles)
vide route (5).

Jura	8 miles
Bhadrwáh	15 „
Sarthal	13 „

Bani	14 miles
Bhond	13 „
Basohli	14 „
Dunera	8 „
Pathámkot	29 „

(15) Srinagar to Warwan via Amar Nath

Pahalgám	46 miles
Chandanwári	(10,500 ft.) 7 „
Shishramnág or Wávjan	(12,850 „) 7 „
Panchatarni	(12,900 „) 7 „
Amar Náth	(13,900 „) 3 „
Sukhanág	24 „
Wárwán	4 „

From Wárwán this route branches off to Ladákh.

(16) Srinagar to Tilel via Mahalish

Gándarbal	12 $\frac{1}{4}$ miles
Chhatrgul	8 $\frac{3}{4}$ „
Mahalish meadow	8 „
Gangabal	7 „
Rásabal	16 „
Badgám (Tilel)	30 „

From Tilel this route leads to Skardu on one side and Gures, Gilgit and Astor on the other.

(17) Srinagar to Chilas via Kachaduna

Sopur	30 miles
Chágul	13 „
Kaláruch and across the	
Kachaduna pass	16 „
Shárda	40 „

Siri	10 miles
Siral	25 „
Chilás	25 „

(18) Srinagar to Karnah *via* Nastachhanu

Sopur	30 miles
Handawára	15½ „
Shivlura	14 „
Drangayár across the Nastachhenu	
pass	8 „
Nalchan	9½ „
Titwál (Karnáh)	10 „

(19) Srinagar to Drawah *via* Ashai

Sopur	30 miles
Farikin	33 „
Across the Ashái and Treldabru	
passes	30 „

The People

The Dogras are generally thick-set and short-statured. The Kashmiris, who come from the primitive Aryan stock, have a fair complexion, and are good-looking and well built. They are tall and strong, the features of the men are large and aquiline, with a wide straight-up and high forehead and a well shaped head. The beauty of the women is of ancient and world-wide reputation. Their hair is glossy, their brow bright and smooth and their eyelashes dark. Sir W.R. Lawrence observes that, despite the unbeautifying effects in many cases of poverty and misery, their title to beauty must justly be conceded and a Kashmiri woman may claim one of the first places among her sex as a fine example of Nature's loveliest handiwork—the female human form divine. In Ladákh are the races of Mongolian type blending down with the Dárds and Galchas of Skardu and Gilgit.

There is a clan called Bambas living in the area to the right of the Jhelum between Báramulla and Muzaffarábád. They belong to the tribe Bani Umia of Damascus, Bamba being the corruption of the word Bani Umia. They originally came to Kashmir with Dulchu in 1322 A.D., and settled here.

Khakhas and Hátmáls are the other clans living in the area to the left bank of the Jhelum between Báramulla and Kohala. They are the descendants of two Rajputs named Khakhu and Hátu who became converts to Islám and took service at the court of King Zain-ul-abidin (1420-70 A.D.) who granted them a *Jágir* here.

All the three clans mentioned often came into the Kashmir valley and plundered the people. They were a terror to them. Even now a Kashmiri mother would, in order to frighten her child, say *Khukh a'v* (Khukha has come). These clans were independent, but Mahārāja Gulāb Singh brought them under subjugation soon after he got Kashmir from the British Government.

I

CHARACTER

The Dogra is noted for self-respect, faithfulness and bravery.

The Kashmiri is kind to his family, hospitable, intelligent, industrious and free from crime against person. And these qualities are in keeping with his poetic surroundings. He has, however, been much maligned, and abuses out of measure have been hurled upon his devoted head. Sir Walter Lawrence, than whom none has studied Kashmir and the Kashmiri more, writes in his *Valley of Kashmir* :

"I think that many of the hard things said about the Kashmiris are due to the fact that the official interpreters of their character have been foreigners, often grasping and corrupt, always unsympathetic. Mughal Subedars, Pathan Sirdárs and Sikh and Dogra Governors dismissed all difficulties of administration and all humane suggestions emanating from their masters with the remark that the Kashmiris were dishonest, treacherous and *zulmparast*. It is the old tale of giving a dog a bad name; and I must confess that during my first year's work in the Valley I shared their views. But I soon grew to understand that the Kashmiri, like other Orientals, has two sides to his character as distinct as light and darkness."

Dr. Ernest F. Neve, who has spent forty years in close touch with the people of Kashmir, says in his very interesting book *Beyond the Pir Punjál* :

"On the whole the Kashmiris are grateful to benefits. Their moral sense is fairly developed. They readily distinguish from right and wrong."

Of Pandits he says : "Their intellectual superiority over the rest of the population must be admitted. They are quick of

apprehension and have good memories. One of their besetting faults is conceit. But some of them are very superior, trustworthy, honest, clear headed and industrious."

A German has said that "every Oriental people has a certain national aversion to every other". What has been said of the Kashmiri should not, therefore, be taken without making due allowances for extravagances. There may be certain foibles in his character but they are due to his poverty; misery and falsehood, poverty and cringing being not easily separable.

The character of the people, timid yet persistent, humble yet intellectual, was the direct result of evil administration. Still with the persistency of their forefathers, who had survived the despotism of the Mughal and Pathan governors, and with trust for protection, during the dangers of the times, solely on their own inoffensive conduct, the Kashmiris clung to their land and their traditions, and they probably represent to this day a people historically older than any to be found in Northern India, still associated with the land of their ancestors. Remembering the beauty and the fertility of the Vale of Kashmir, this is perhaps not so surprising as it would otherwise seem.

Successive dynasties have left no impress on their national character. They are to day what they were thousands of years ago.

Altruism is nowhere narrower than in Jammu where the people will not even take the names of certain towns and villages out of antipathy towards their inhabitants. For instance, Jammu is called "Wará Shahr"; Sámbar "Chhintán Wála Shahr"; Aknhur "Daryáj Wala Shahr"; Jasrota "Watán Wála Shahr"; Dhansál "Kachá Pind"; Pánsar "Tá Wála Pind"; Parol "Nagri" and Jhangánu "Qila Wála Pind".

The Tibetans are simple, truthful and laborious.

II

RELIGION

The majority of the population are Muhammadans, being 2,548,492; Hindus come next and they number 6,92,324. The

number of Buddhists is 37,685, of Sikhs 39,507, and of other religionists 2,510.¹

In the beginning the people in Kashmir were Brahmans. When Buddhism prevailed in India, it spread in Kashmir also, but with its decline in India it disappeared from Kashmir and by 638 A.D. the old faith prevailed again. In 1314 A.D. Zulqadr Khán *alias* Dulchu who with 60,000 troops invaded Kashmir, converted the people forcibly to Islam. Renchan Sháh and later on Sikandar, the Iconoclast; and after him some other rulers, specially Azád Khán and Madad Khán, excelled Dulchu in the zeal to make converts to Muhammadanism, so much so that the cry "*Nabatuham* went forth.

Renchan Sháh was a Tibetan prince who came to Kashmir in the time of Saha Deva (1301-20 A.D.), and assumed the rule of the country. He did not know anything of his own religion and wanted to become a Hindu. But the Brahmans of Kashmir headed by one Devaswámi, did not admit him to their caste and then one night he determined to embrace the religion of that person whom he should happen to see first the following morning. In the morning he chanced to see first of all Bulbul Sháh, a Muhammadan Faqir (whose *Ziarat* is situated at the 5th Bridge in Srinagar), and he at once became a convert to Islam.

There is a small community of local Kshatriyas in Kashmir called Bhoras who are druggists by profession.

The Shia sect came into existence in Kashmir from 1486 A.D. when Mir Shams Aráqi, a Shia missionary, came from Khurásán and converted many Sunnies to his cult.

The Sikhs in Kashmir are the Punjáb Brahmans. During the years 1751 to 1762 A.D., in the reign of the Emperor Ahmad Sháh Durani, Rája Sukhjiwan, Subah of the Emperor, brought them from Pothowár and the adjoining hills to assist him in asserting his independence against his master. As these mercenaries were paid in kind, and had, in the time of Mahárája Ranjit Singh, embraced Sikhism, they began to be called Jinsi-Sikhs, or Sikhs, in receipt of rations.

¹ According to 1961 census the Muhammadan population was 2,432,067; Hindus, 1,013,193; Buddhists 48,360; Sikhs 63,069; other religions 4,278.

III

LANGUAGE

Kashmiri, which is an admixture of Persian and Sanskrit, is spoken in the Kashmir valley. Dogri and Panjábi are spoken in Jammu; Punjábi and Pahári in Muzaffarábád; Balti in Baltistán; Bhutti in Ladakh; and Pahári and Kashmiri in Kishtwár, Bhadrwah, Rámban and other hilly tracts.

IV

EDUCATION

Primary education is freely given throughout the State. English education is making much progress, chiefly at Srinagar. There are high schools and middle schools at all the large towns. One college has been established at Jammu and another at Srinagar. There are also girls' schools at both Srinagar and Jammu.²

- 1 Education has made rapid progress in the State particularly after independence. It is free from primary to post-graduate level. The level of literacy in the State during the decade 1961-71 has gone up from 11.03% to 18.30%. The percentage of increase registered by the Jammu & Kashmir State in 1971 over what it was in 1961 was 65.91, which was the highest recorded for any other state of India during the decade. The percentage increase registered for the country as a whole was only 22.14.

There are two universities in the State, one in Jammu and the other in Srinagar. In 1975-76 there were 42 colleges, 600 high schools, 1500 middle schools and 5,363 primary schools in the State. There are also an agricultural, two teachers' training and one engineering colleges, besides two medical and one Ayurvedic colleges,

V

ADMINISTRATION³

His Highness General Mahárāja Sir Hari Singh Bahadur, K.C.I.E., K.C.V.O., etc., is the ruler of the Jammu and Kashmir State. He is also the Commander-in-Chief of the Army, numbering 10,000 soldiers. The Council comprises Revenue Member, Finance and Police Member, P.W. Member, Home and Law Member, and Member for Commerce and Industries. The Heads of different Departments are under the control of different Members of the State Council.⁴

For the purposes of revenue administration the State is divided into four parts, namely, (i) Jammu Province ; (2) Kashmir Province ; (3) Ladákh ; (4) Gilgit. The two Provinces are under two Wazir Wazárats who are under the direct control of the Revenue Member. Under Governors are Wazir Wazárats and under the latter, Tehsildárs and Náib Tehsildárs.

The Jammu Province is divided into five Wazárats, namely:

- (1) Jammu Khás ;
- (2) Udhampur ;
- (3) Kathua ;
- (4) Riási ;
- (5) Mirpur. These comprise the following Tehsils :

- (1) Jammu, Ranbirsinghpura, Sám̐ba.
- (2) Udhampur, Rám̐ban, Kishtwár, Rám̐nagar.
- (3) Kathua, Basohli, Jasmergadh.
- (4) Riási, Akhnur, Rám̐pur-Rajouri.
- (5) Mirpur, Kotli, Bhimber.

The Kashmir Province is divided into three Wazárats, namely,

³ For changed pattern of administration *see* the Introduction.

⁴ The State has undergone a complete revolution in the government — from absolute autocracy of the Maharajas to a full-fledged democratic set-up. *See* the Introduction.

(1) Southern Division ; (2) Northern Division ; (3) Muzaffarábád. These Wazárats are divided into the following tehsils :

- (1) Srinagar Khás, Anantnág, Kulagám, Avantipura.
- (2) Pratápsinghpura, Báramulla, Uttar Machhipura.
- (3) Muzaffarábád, Karnáh, Uri.

The Wazárat of Ladákh consists of three tehsils, viz., Leh, Kargil and Skardu, and the Gilgit Wazarat, of one tehsil, Gilgit only.

The Judicial Department is presided over by High Court Judge and under him are two Chief Judges (one for Kashmir and the other for Jammu), Wazir Wazárats of Frontier Districts as Session Judges, and Judges of Small Cause Court at Jammu and Kashmir. Under the Chief Judges are Additional District Magistrates, Sub-Judges, City Magistrates, Wazir Wazárats of Jammu and Kashmir Provinces as Sub-Divisional Magistrates, and Munsifs. The Police is in charge of the Inspector-General of Police and under him are two Superintendents, one for each province. In the Education Department the two colleges at Jammu and Srinagar are managed by the Principals and the schools by two Provincial Inspectors. The Medical Department is controlled by the Director of Medical Services under whom are Chief Medical Officers, one for Kashmir and the other for Jammu. Reception, Research, Archeaology, Dharamarth, Mines, Museum, Meteorology, Rakhs, Game Laws and Jails are each under one Superintendent.

The Public Works Department is controlled by a Chief Engineer and under him are Divisional Engineers, one at each of the following places :—Kashmir valley, Jhelum Valley Road, Gilgit Road, Jammu Province and Banihal Road. The Irrigation Department is controlled by another Chief Engineer and under him are two Divisional Engineers, one at Jammu and the other in Kashmir. The Electrical Department is under a third Chief Engineer and the Dredging Department is under Chief Mechanical Engineer.

Settlement is under the Settlement Commissioner, and Sericulture, Mulberry-culture, Viniculture, Agriculture and Horticulture are under the Member for Commerce and Industries. Forests are under the Chief Conservator who is assisted by

four Conservators, Accounts under Accountant-General, Survey of mines under Mining Engineer, Municipalities under Presidents and Committees, Customs and Excise under Superintendent assisted by two Inspectors, one in charge of Jammu Province and the other in-charge of Kashmir Province, and Co-operative Societies under a Director.

Commerce and Industries

According to the latest official report the total value of imports into the whole State for the year 1919-20 was Rs. 2,85,05,100 and of exports Rs. 1,65,99,373. Salt, snuff, tea, piece-goods, petroleum, sugar, haberdashery, metals and spices are among the staples of import; and timber, silk, linseed, fruits, grains, ghee, woollen goods, hides and *kut* are the chief articles of export.

The arts, of course, deserve to be given a prominent place in education and life because of their power of calling forth the best qualities in human beings. Every facility is afforded by the State to encourage and improve the arts and industries, and to promote the industrial activity of the State which contains almost every raw material required for the supply of its needs and manufactured goods. The first and foremost industry throughout the State is agriculture. The most beneficial measure introduced by the administration was the land settlement and the inauguration of an equitable assessment of property and crops. The happy result is that the vast agricultural population is in a prosperous condition.

The industrial development of Kashmir has been very rapid in recent years. The arts have attained to a degree of excellence and their qualities are fast improving. These works of art are increasing in demand all over the world and there is, therefore,

a great and prosperous future before this State. The way to prosperity for a country is the systematic development of its resources and the organisation of a trained industrial population. An Urdu poet has truly said:

*Hain wuh mustaghni jahán men jinko kuchh áta hai kám
Hainkalide ganj-i-zar ahle hunar ki ungliyán.*

They are purse-proud in the world who can practise some handicraft

The fingers of a craftsman are the key of the treasury of gold.

The Kashmir craftsman's and artisan's hand is no doubt supple and wonderfully trained, but it has not yet been brought into systematic and organic co-operation with their eye and brain. When that is effected it shall react upon their own value in the labour market to an extent which can hardly be measured. Every intelligent workman, they say, is a potential inventor and requires opportunity and facilities for development of the faculty latent in him. The opportunities and facilities are offered by the Technical Institute¹, which has been established to perpetuate the memory of the late Rájá Sir Amar Singh. Its aim is to revive the ancient and national methods of artistic expression and to revitalise and restore them by breathing a new life into the dead bones of the Kashmir Art. It trains the artistic and intelligent people of this country in modern methods of work and makes them proceed forward and get further and further, enlarging the principles and improving the practice of the arts. It is a source of general diffusion of opportunities for technical training and affords facilities for the training of the artisans and craftsmen. It also guides them to correct the defects in, and give finish and touch to, the works of art. Finish and touch are at present lacking in the Kashmir works of art, and if they are learnt by the Kashmiri craftsmen and artisans the economic future of Kashmir promises to be exceedingly bright.

¹ This Institute has been converted into a Polytechnic. The original building of the Institute is now occupied by Amar Singh College.

They are really fortune-builders of the country who avail themselves of technical education offered to them—an education calculated to promote their power of thinking, observing and experimenting correctly. Having attained this power, they will work wonders in developing the industrial arts and crafts, so that this State, which is a focus of attraction for seekers of health and lovers of beauty, will also be a centre of real interest to art lovers all the world over.

There is a Museum in the Lalmandi at Srinagar where samples of best workmanship and art are to be seen. The State has started an Electrical Installation at Mahora² at which 5,000 horse-power is generated and another Installation on the Ranbir Canal at Jammu, where 1,000 horse-power is generated. The silk factories and also several small but useful industrial concerns at Srinagar and Jammu are worked by this power. Along with the impetus thus given to local industries, the State has been devoting special attention to promote agriculture and horticulture.

The chief industries in Kashmir are, shawl, carpet, *papier mache*, paper making, sericulture, embroidery and wood work. There are also other minor industries. An account of them is given below :

I

SHAWL TRADE

Kashmir is not only one of the finest countries that the sun shines upon, but also a storehouse of exquisite works of art fostered by a people renowned for elegant taste and artistic faculty

² This is one of the earliest hydro-electric projects in India. Important power projects implemented since 1947 : Ganderbal (15 MW), Chenani (15 MW), Kalakot Thermal Station (22.5 MW). The Upper Sind project will have an installed capacity of 22 MW; Lower Jhelum project is nearly completed and is about to go into commission. The work on the Salal project in Riasi district is progressing well. With the commissioning of high voltage transmission line between Srinagar and Pathankot in 1974, the power supply in the valley is linked with that in northern India.

like the Japanese in the Far East. They, from primitive simplicity, began to aim at elegance, influenced, no doubt, by the natural beauties with which they were surrounded and by a climate eminently suited to their application to industrial pursuits together with the wealth of raw materials with which Nature has profusely endowed this State. Their works of art excite the admiration of the artistic world. Shut up within the high walls of the Himalayas and guarded by its snowy giants, they were contented to live in a little world of their own from which they neither attempted nor desired to extricate themselves, and, being hardy and industrious by nature, applied themselves to industries, supporting their families with the produce of their labour. They lived and worked from day to day and year after year with unchanging uniformity. Turbulent times there were many. Adventurer after adventurer came and turned Kashmir into one endless battle-ground for the satisfaction of their ambition and avarice, spreading horror over the country. To recite the brutalities perpetrated by them would be to read a catalogue of black crime and deeds of cruelty fit to sicken a tiger. But the Kashmiri suffered it with passive resignation and did not distract himself from the craft of his forefathers bequeathed to him with all the secrets and mysteries of the art.

Kashmir was ever noted for, as the proverb says, *Shawl, Sháli, Shalgam*, and the Kashmiri brought the Shawl to the highest pitch of excellence.

It is a square or oblong article of dress worn in various ways hanging from the shoulders. It is characterised by the great elaboration and minute detail of its design and by the great glowing harmony, brilliance, depth, softness, warmth and other enduring qualities of its colours. These excellent qualities are the result of the raw material of the shawl manufacture which consists of the very fine, soft, short, flossy underwool called *Keliphumb* or the *pashm* of Kel or shawl goat, a variety of *Capra-hircus* inhabiting the elevated regions of Tibet. These regions are, owing to their high altitude, intensely cold and Nature has clothed the goats with this warm wool. The higher the goats live, the finer and warmer is their wool. The Tibetans call the he-goat and the she-goat yielding the wool *Rabo* and *Rama* and the white and brown pashm, *Lena Karpó* and *Lena Nakpo* respectively

and the Kel's pashm *tsokul*. There are several varieties of *pashm* according to the districts in which it is produced, but the finest comes from Changthong, the eastern district of Ladákh, and from Turfán. The *pashm* of Turfán is from goats in the Tian Shan mountains and the principal marts of collection are Turfán and Ush Turfán, and it comes by caravan by the Káshgar Yárkand and Leh route. Those who trade in this commodity are called Tibet Baqáls. In 1817, the price was Rs. 15 per 6 seers or a *trak* when the import was 60,000 maunds. The *pashm* was imported by merchants who exchanged it for manufactured shawls and *pashmina* which they disposed of advantageously in Russia.

The shawl wool is sorted with patient care by hand and spun into fine thread by the Kashmiri women.³ The work is of much delicacy owing to the shortness of the fibre. The various colours are dyed in the yarn. The subsequent weaving or needle-work is a work of great labour, and a fine shawl will occupy the whole time labour of three men for not less than a year. There are two principal classes, one is *Kani* or loom-woven shawl, woven in small segments which are sewn together with such precision and neatness that the sewing is quite imperceptible; and the other is *Anlikár* in which over a ground of plain *pashmina* is worked by needle a minute and elaborate pattern. A peculiar method is employed by the weaver in converting his original design, which is prepared by a *Naqash*, into a textile. Instead of working from a coloured drawing or diagram, the weaver has the pattern translated on paper into rows of symbols, each of which expresses the number of threads to be worked in and their colour. The man who translates the pattern into written "key" is called *Khahan Wol*. The weaver has a tray at his hand filled with bobbins of every required colour, and with this written "key" or *t'alim*, as called by the Kashmiris, he sits on the loom, works in the stated number of threads of each colour as in the ciphered

3 Following the annexation of Tibet by China, the supply of shawl wool from that region has been completely stopped. The wool now generally used is from shawl goats inhabiting the upper reaches of Ladakh and Merino wool imported from Australia. Merino sheep are now bred in a few sheep farms in the State with the object of producing enough wool for the shawl industry.

script with marvellous dexterity, knowing nothing of the pattern he is preparing, but gradually building up in a mechanical way the shawl on the warp before him. What a puzzle it would be to ordinary workers! Shawl is also manufactured at Meshed, Kirmán and Andijan in Persia and at Amritsar, Lahore and Ludhiana in the Punjáb, but it is far deficient in quality as compared with that manufactured in Kashmir. Apart from the skill of the Kashmiri manufacturers, there is something peculiar in the atmosphere of Kashmir which renders the shawl soft.

The shawl formed a raiment of the votaries of fashion in Europe. Merchants made fortunes by trading in it and the industry once employed over 60,000 people and brought into the country 50 lakhs of rupees annually. *Pashmina* is the term used for all textile fabrics made from *pashm*-wool. It is woven plain or in various patterns of European tweed and serge. The earliest and indigenous pattern is in plain white or *Khudrang* (natural colour) or white and black stripes called *Resh Pombur*. The best white *pashmina* can now be had for Rs. 20 per yard.⁵

When the Kashmiri took to this industry is not known, but it is certain that from ancient times Kashmir was famous for its shawls. The *Mahábhárata* says that when Krishna went to the Court of the Kurus as a delegate from the Pándavas, Dhritarashtra proposed to present him, among other things 18,000 *avikam*, or shawls, of the hilly country, obviously meaning Kashmir. We are also told that ere Tyne became a place for fishermen to dry their nets in, the Hindu-Phoenician commerce had an Asiatic renown; the spices of India were sought in the time of Solomon, and the gossamer muslin of Dacca and the shawls of Kashmir adorned the proudest beauties at the Court of the Caesars. In *Judges V*, 30, we read of diverse patterns of needlework, on both sides, and in *Ezekiel* mention is made of embroidered works brought by merchants in chests bound with cords and made of cedar, apparently referring to Kashmir shawls.

4 This type of shawl weaving is now nearly a lost art. Now-a-days plain *pashmina* is woven on handlooms and is sold as plain or embroidered.

5 The price now varies from Rs. 500 to Rs. 1500 per metre length.

It is said that Mir Sayid Ali of Hamadán (Persia) *alias* Sháh Hamadán, who visited Kashmir for the second time in 1378. A.D. and stayed here for over two years, revived the shawl industry which had long died out, and Sultán Qutb-ud-din, who was then the ruler of Kashmir, patronized, nourished and stimulated it. One hundred and sixty-two years later, a man of Khoqand in Central Asia, named Nagz Beg, who was a cook of Mirza Haider of Káshghar who came to Kashmir in 1540 A.D. and became the Vazier of Sultán Náruk Sháh, the then ruler of Kashmir, got a piece of *pashmina*, $1\frac{1}{2}$ yards wide, prepared, and presented it to his master. Mirza Haider enquired as to what it was. The cook replied "Shawl". He called it by this name because the people of Khoqand call a blanket a shawl in their own tongue. A kind of blanket is even now manufactured in Central Asia which is called "Shawlki". Mirza Haider enquired, "Is it *yak* (single) shawl or *du* (double) shawl?" The cook replied, "*Du* shawl." It is said that since then this cloth has come to be called by this name. Mirza Haider liked the shawl very much, gave a reward to the man and ordered him to prepare another piece. One day a workman who was weaving the *pashmina* was, for some negligence, given a slap on his face at which his nose bled and the *pashmina* got sprinkled with blood. Nagz Beg found that the *pashmina* looked prettier with the red spots and, intelligent as he was, he got *pashmina* thread dyed with red and green colours and wound on twigs and with them the cloth was woven so that red and green spot were alternately in regular rows produced on it. Nagz Beg was popularly called Naqd Beg and the tomb of this unique figure in the history of shawl industry is on the road at the Babribág near Zadibal, the northern suburb of Srinagar.

The art of *Amlikár* shawl was invented by a Kashmiri named Saida Bába *alias* Ali Bába in the time of Azád Khán, an Afghán Governor who ruled in Kashmir from 1783 to 1785 A.D. Ali Bába was living at the Sokálipura mohalla in Srinagar. It is said he was led to his invention by observing a fowl walking on a white sheet of cloth which left prints of its dirty feet on it and suggested to him that if he covered these stains with coloured thread with the help of the needle, the cloth would look prettier. He did so and finding his attempt successful, marvellously im-

proved upon it. This remarkable man's tomb is at Rájwer Kadal. His lineal descendant now living is his great-grandson named Asad Alá who is residing at Nawa Kadal in Srinagar and pursuing his great-grandfather's calling, namely, darning.

Gradually, the improvement in the manufacture of shawl was developed with development in the refinement of taste, and *háshia* or borders were added to it. In 1864 A.D. in the time of Mahárájá Ránbir Singh, *Du Rukha* shawls or shawls with face on both sides were first made. The inventors were Mustafa Pandit and Aziz Pandit. The ingenious men also invented the *Zamin past gul bálá* shawls or shawls with raised floral work.

The *háshia* is the border and may be single, double or triple. The *palla* is the embroidery at the two ends. The *dhour* or running ornament covers all the four sides. The *kunj* is the cluster of flowers or cone in the corners. The *mattan* is the decorated or plain part of the central ground. When the row of cones is double, it is called *dokunj*. A special design was used for shawls sent to Armenia, with which country a large trade existed. The design is credited to Khwája Yusaf, an Armenian, who was in Kashmir in 1803.

The shawl designs are various, chiefly conventional and some realistic. The well known cone pattern, with flowing curves and minute diaper of flowers, is elaborated in the most artistic manner and combined with floral decorations and a maze of scrolls. It has been called the Persian Cone or flame pattern. The cone, I think, is a purely Kashmiri idea. Some say the design was conceived from the windings of the Jhelum river and the scrolls were in imitation of the ripples of water caused by the back flow near the bridges on the Jhelum. It may, therefore, be called the "Jhelum pattern". The Jigha pattern was a favourite one with the Mughals, and it is said that many Andijani weavers were brought to Kashmir by the Mughals, and they settled in Srinagar. Some believe that the cone is really an elaboration of an Egyptian Cocus of ancient origin.

The process of shawl manufacture is briefly as follows :

(1) The wool is cleaned and treated with rice paste. Soap is never used.

(2) Spinning into yarn by the spinning wheel.

(3) Dyeing. In olden days 64 different tints could be given. Lac is used as a mordant.

(4) The yarn is then adjusted for the warp and for the weft. Both the warp and weft are double.

(5) Weaving. The warp is fixed in the loom. The coloured yarn is wound round small sticks which may be about 1,500 in number in richly embroidered shawls. The weaver has no idea what he has to produce, but only manipulates the stick according to the *t'alim*.

(6) Washing in the water of the Dal lake, this water being peculiarly suited to render the *pashmina* soft and the colours fast and bright.

(7) Cleaning of discoloured hairs by *Purzagars*. The colour of white *pashmina* is confirmed by application of sulphur fumes.

The actual cost of a Rumál was as follows :

	Rs.
Asalkar (wages of shawl weavers)	300
Commission 20 per cent.	75
<i>Pashm</i> dyeing	75
Tax	75
Bukhshish Ustad (Master's wages)	75
Miscellaneous expenses, designing etc.	25

Total cost was rupees 625. The shawl was sold in Paris for Rs. 2,000, including insurance, freight, auctioneer's commission and other agency charges.

During the Mughal period, the art of shawl weaving attained to such excellence that a shawl, $1\frac{1}{2}$ square yard in dimension, could be produced which could pass twisted through a finger ring.⁶ The Mughals had a great liking for it. "His Majesty Akbar," Abul Fazal says in the *Ayeeni Akbari*, "is very fond of shawls. By the solicitude of His Majesty the manufacture of shawls in Kashmir is in a very flourishing state." Bernier, who

6 These are now known as "ring-shawls". A few master weavers still produce such exquisite pieces.

visited Kashmir in 1665 A.D. with Aurangzeb, says, "What may be considered peculiar to Kashmir, and the staple commodity which particularly promotes the trade of the country and fills it with wealth, is the prodigious quantity of shawls, which they manufacture and which gives occupation even to little children." In the year 1739, Nádír Sháh sent an Ambassador to Constantinople with fifteen elephant loads of presents to the Sultán, amongst which there were a number of Kashmir shawls which the Sultán presented to the wives of the ambassadors in his Court. The Mughal Emperor, Muhammad Sháh, who ruled from 1720 to 1742 A.D., was presented with a shawl of a floral design which he liked very much and he ordered that Rs. 40,000 worth of shawls of the same design be manufactured and supplied to him annually. The design came to be called after the name of the Emperor, *Butá Muhammad Shahi*.

In 1752 A.D. Kashmir fell into the hands of the Afgháns and they too, like the Mughals, had a special liking for shawls. The demand gave a great impetus to the improvement of the industry. Jámawár, Dordar and Qasába or Rumál of diverse and beautiful designs were manufactured. The trade became extensive and there was great demand for shawls in Persia, Afghánistán and Turkistán and later in Russia.

In 1796 A.D. in the time of Abdullah Khán an Afghán Governor of Kashmir, a blind man, named Sayid Yahaya, had come from Baghdád as a visitor to Kashmir, and when he took leave from Abdullah Khán to return, the latter gave him a present of an orange-coloured shawl. The Sayid, having gone to Egypt gave it as a present to the Khedive there. Soon after, Napoleon Bonaparte came to Egypt with his famous fleet with the object of harassing the English in India, but it was smashed up by Nelson on the Nile. The Khedive gave him this shawl as a present. Napoleon sent it to France and it attracted the fashionable people there. French traders soon came to Kashmir and exported shawls of various designs to France.

Under the Sikh rule also, the trade was in a flourishing condition. Moorcroft, who visited Kashmir in 1822, says: "The whole value of shawl-goods manufactured in Kashmir may be estimated at about thirty-five lakhs of rupees per annum." Diwán Kripá Rám was Governor in 1827 A.D. and then the

trade was in a most prosperous condition, but a terrible famine visited the land in Col. Mián Singh's time in 1834, which gave a crushing blow to its manufacture.

When Mahārāja Guláb Singh became the ruler in 1846 A.D., the shawl trade began to revive and commenced one of its most glorious epochs. The income to the State from 1846 to 1869 was, on an average, seven lakhs of rupees per annum. In Mahārāja Ránbir Singh's time the export of shawls valued, on an average, 28 lakhs of rupees per annum. There was again great demand for shawls in France and other European countries.

The French Agents who came to Kashmir for the purchase of shawls were :

<i>Year.</i>	<i>Name.</i>	<i>No. of years on duty</i>	<i>Name of Purchasing Firms</i>
1856-57	Petit	1	Chevieuse Aubertot.
1856-57	Oujouanet	1	Frainy Gramaniac.
1860-63	Lebreton	3	do. do.
1863-70	Olive	7	do. do.
1866-71	Lefebvre	5	do. do.
1865-68	Gosselin	3	Cie. des Indes.
1867-70	Brochard	3	Oshedé Blemont.
1865-82	Dauvergne	17	Cie. des Indes.

Messrs. Uhlan & Co. were the agents of the State in France who sold shawls for the State. Wallace Brothers of London and Hoschede, Poute, Tissier & Co., of Paris were the agents of Khwāja Amir Ju Gangu, then one of the chief shawl traders of Kashmir. Larousse says: "In spite of heavy duty levied by the French Government, 110 Francs on a piece, whatever its value, the trade flourished." Those were palmy days for this industry. All Kashmir and its wife were busy amassing handsome fortunes in the shawl trade. Night was joint labourer with the day in the busy pastime of making gold out of the industry, and the shawl merchants became so rich and luxurious as to put milk in place of water in their *hnásq*. A shawl was then manufactured by Mirza Ali Kárkhándár which fetched as much as Rs. 12,500.

Having thus touched the apex of its prosperity, the shawl

trade now began to dwindle. The Franco-German war of 1870 and its disastrous consequences inflicted an almost mortal injury on it. The fashion of using shawls changed. The little flickering life in the trade that remained, was practically extinguished by the famine of 1878 and 1879. Mahārāja Ránbir Singh nobly coped with the famine and advanced ten lakhs of rupees to the shawl manufacturers, but the shawl trade never recovered from the shock. A large number of shawl weavers left Kashmir and settled in Amritsar and Lahore where, up to this date, their descendants weave shawls. The art also lost all its charms, as imitative attempts to reproduce designs dictated by the West, which had no affinity with the real art, had been made, and the old artistic designs, the result of the earnest thinking of thousands of minds spread over hundreds of years, had been given up. Sir George Birdwood says : "The Kashmir trade in shawl has been ruined through the quickness with which the caste weavers have adopted "the improved shawl patterns which the French agents of the Paris import-houses have set before them."

The last blow on shawl industry was dealt by a manufacturer of the name of Kerr. He began making colourable imitations of Kashmir shawls in his Scotch town of Paisley. These were sold at about $\frac{1}{10}$ th of the price of the real article and came within the reach of domestic servants in large households in England. When the cook and the housemaid both appeared on Sundays in cheap imitations, ladies found it impossible to go on wearing the matchless products of Kashmir. M. Dauvergne and M. Bijex, who were then engaged in this trade in Kashmir, found that it was gone and then they turned their attention to the carpet industry.

The shawl trade was controlled by a Department called Dagshawl or Shawl Marking Department. The Dágshawl office was located in a large house at Saraf Kadal in Srinagar which still exists there. It originally belonged to a man named Majlis Rái who had come from the Punjáb in 1685 A.D. and possessed property worth one crore of rupees which he lost in a plunder of the city in the time of Ibrahim Khán, a Governor of Kashmir appointed by Aurangzeb.

The Dágshawl came into existence in this way. During the

Afghán period saffron and grains, which the State got as its own share, were sold by the State at higher than the market rates to the inhabitants, of course against their wishes. The selling was called *Niliv* or *Tarah*. The loss that this system entailed on the people was ruinous. It told very severely on the shawl weavers who then numbered 12,000. In the time of the Afghán Governor, Háji Kárim Dád (1776-83 A.D.), this practice was abolished and in lieu of it the shawl weavers were made to pay a small tax which was called *Qasur-i-sháli*. Subsequently, Háji Karim Dád, at the suggestion of his Peshkar, Pandit Dayá Rám Quli, abolished the *Qusur-i-sháli*, but levied a tax on each piece of *pashmina* manufactured. The *pashmina* was caused to be brought before a State Official called Dárogah Dágshawl and its price was assessed by appraisers called Muqim, or Wáfarosh and $1\frac{1}{2}$ pie per rupee was recovered as duty. It is said that the income of the Dágshawl on the first day of its establishment was 1 anna $4\frac{1}{2}$ pies only. Then, in order to see that no smuggling might occur and that every piece manufactured did not go without payment of duty, guards, called *Shaqdárs*, were appointed by the State. Small pieces, sometimes only a few inches in dimensions which had been woven by a shawl weaver, were cut away and taken to Dágshawl. When several such pieces were made, they were patched up into a piece of the required dimensions and it was stamped and made over to the Khurdies (the agents of shawl manufacturers) after recovering the duty from them.

Nobody could sell a piece which did not bear the stamp of Dágshawl in token of payment of duty thereon. The evasion of the payment made one liable to condign punishment. In 1806 A.D., in the time of the Afghán Governor, Sher Muhammad Khán Mukhtár-ud-Daula, the duty was enhanced to 3 pies per rupee *ad valorem*. In the time of his son, Atá Muhammad Khán (1806-13 A.D.), there were 18,000 looms working, which increased to 24,000 when Sardar Azim Khan became the Governor of Kashmir in 1813. Azim Khán revived the old *Niliv* system and gave ten *kharwars* of *sháli* per loom. The shawl produced on the loom was taken by the State and the price of *sháli*, together with the amount of duty leviable on the shawl, was recovered from the price of the shawl.

When Kashmir passed into the hands of the Sikhs, there had remained only six thousand looms and yet the duty was further raised to three annas per rupee *ad valorem*, and twelve *kharwars* of *sháli* at three rupees per *kharwar*, of which the actual market price was only one rupee, were issued for each loom. The industry would have been extinguished had not a far-sighted man, named Jawáhir Mal, been then the Dárogah of the Dágshawl. He, in order to save the industry from being killed, increased the price of shawls by one quarter over the market rate. The result was that the owner of the shawl would accept four annas less per rupee from the Dárogah and sell the shawl to him. The latter would give him, after deducting the price of the *sháli* advanced, a cheque for the balance on another shawl weaver who was State debtor, to pay him from the amount of arrears outstanding against him. Thus all shawls were sold to the Dárogah and the traders purchased them from him. In this way the shawl weavers enjoyed some relief in spite of the enhancement of duty and the *Nili*, and in a short time the number of looms increased to 16,000.

In the time of the Sikh Governor, Diwán Kirpá Rám, his priest, Misr Bhola Náth, was appointed as Dárogah of the Dágshawl and he levied a tax of Rs. 75 on each loom at which three weavers worked, and the forcible selling of grains to them was continued. He thus realized twelve lakhs of rupees per year as income of the Dágshawl, but it meant sucking out all blood from the weavers. To the tyrannies of Bhola Náth were added the wrath of Nature in the shape of flood and famine and the result was the number of looms shrank to 1,200. Colonel Mián Singh was now the Governor of Kashmir. He was a good statesman and he reintroduced the old system of Jawáhir Mal with the result that, in the course of four years, the number of looms increased to 6000.

Bhola Náth was succeeded by Rám Dyál as Dárogah of the Dágshawl. It was represented to him by the Kárkhándárs that no sooner had a man learnt his work and probably some of employer's trade secrets than he rose in value in labour market and every effort was made by his master's rivals to secure his service. The practice of enticing away an operative was therefore made penal. The shawl weavers were thus in absolute

charge of the Karkhandars or proprietors of factories. They became their slaves and were forced to work very hard. In the first year of his appointment Rám Dyál fixed Rs. 98 as tax per loom and besides gave per loom 20 *kharwars* of *sháli* at two rupees per *kharwar* and five *kharwars* at the actual market rate which was Re. 1-4. In the second year Rám Dyál added $2\frac{1}{2}$ *kharwars* to the *Niliv*, making the total quantity of the *Niliv* $27\frac{1}{2}$ *kharwars*, the price of which was Rs. 52, and this, together with the duty, amounted to Rs. 150 per loom. The weaver might or might not work, but he had to pay.

In the time of Sheikh Ghulám Mohidin (1841-46 A.D.), Dalpat was appointed as Dárogah and he further enhanced the duty by 19 rupees and continued the *Niliv* as in the time of Mián Singh. Each loom was to have $2\frac{1}{2}$ men, that is, two adults and one boy, and Rs. 170 were to be recovered per loom. In those days there were only five thousand looms and 22 shawl weavers are said to have cut off their thumbs in order to be disabled to pursue the profession of shawl weaving and thus be saved from the tyrannies of their Kárkhándárs.

The tyrannies had at last an end. In 1846, Sheikh Imám Din came as the Sikh Governor and he set the shawl weavers free from the bondage of the Kárkhándárs and remitted two annas per *kharwar* in the rate of *sháli* advanced as *Niliv*. He also made the Kárkhándárs give three rupees as reward to each weaver and increase their wages by one quarter and pay one-third of the *Niliv* themselves. This revived the industry.

During the reign of Maharája Guláb Singh (1846-57 A.D.) there were 27,000 weavers working at 11,000 looms. Pandit Ráj Kák Dar was appointed as Dárogah and he was to recover and pay to the State twelve lakhs of *chilki* rupees. The weavers had to pay 49 *chilkies* each and they were again kept in charge of Kárkhándárs and none could go from one Kárkhándár to another. The consequence was that the weavers were forced to work hard from morning to evening and $4\frac{1}{2}$ *dumries*⁷ were paid to them as wages for weaving the thread wound on

⁷ A *dumri* was equivalent to a *pie*. 192 *pics* formed a rupee.

1,000 twigs. A weaver could thus earn seven or eight *chilki*⁸ rupees per month, out of which he had to pay five *chilkies* as tax and had to live on only two or three *chilkies*. Some lazy and sickly weavers could earn only two or three rupees per month and could not pay the tax and thus became Government debtors.

In 1868 A.D., Máhárāja Ránbir Singh remitted the tax of 48 *chilkies* by 11 *chilkies*, and three years after remitted four annas from the *tarah* of 15 *kharwars*⁹ of *sháli* which each weaver had to pay at 2-4-0 *chilkies* a *kharwar*, and ordered to receive *pashmina* in lieu of cash. For ten years this system continued but as the demand for shawls in Europe declined, the State suffered much loss. The Kárhándárs too became poor and in 1876 A.D. the Mahárāja reduced the tax from 27 *chilkies* to 10 *chilkies*. Next year the tax was 11 *chilkies* per man and the *Niliv* was totally abolished. Owing to the famine of 1877 and the declining demand of shawls, the shawl weavers were reduced to poverty and the Mahárāja then abolished the tax altogether and in its place a permit duty of 20 *chilkies* and customs duty of 11 *chilkies* i.e., 31 *chilkies* per cent. on the value of the shawls sold or exported were recovered. This too was remitted in 1886 by Mahárāja Pratap Singh when he ascended the *Gaddi*.

There remained customs and octroi duties on the shawl wool and shawls, which was Rs. 6-10-3 per cent., and these were also remitted in 1901 A.D.

The account given above shows that the shawl trade policy from the very beginning carried with it the germs of its decay. It overlooked the fundamental community of interest of both the employer and the employed in the success of their joint enterprise. By attempting to wrest all profits from the labourer, the employer over-reached himself and killed the industry. The shawl weaver was considered an inferior order of creation as the proverb would indicate :

“*Sini muhima sotsal, rani muhima Khandaváv.*”

⁸ *Chilki* rupee was in circulation till the middle of the last century in Kashmir. It was worth 10 annas or 60 paise.

⁹ *Kharwar* or an ass-load of grain was equivalent to 80 kilograms in weight.

“If any kind of meat cannot be had, one can still get a mallow, and if a husband cannot be had, one can still get a shawl weaver.”

The shawl weaver was ruled with a rod of iron and held in check with a relentless persistency against which he was powerless. He picked up a precarious livelihood. None cared to give support to him, hence the proverb—*Khandvāv himáyat* or support to a shawl weaver—a phrase synonymous with feeble and nominal support. How could the industry live under such an economically unsound condition?

The art of shawl weaving is not happily dead yet, nor will it die so long as this State and the British Raj endure, even if there remains absolutely no market for this commodity. Under the treaty of 1846 with the British Government, the State sends a yearly tribute of one shawl and three Rumáls to the King-Emperor. The State gets these manufactured by contract for Rs. 8,000, but the quality is far from what it used to be.

The present position of shawl manufacturers may be compared to miserable jerry-built cottages rising over the ruins of a city of grand edifices of architectural beauty. The quality of *pashm* is not like what it used to be, the dyeing is imperfect, the old designs are abandoned and cheap showy goods have taken the place of real works of art, in the same manner as chrome prints have replaced master paintings in oil. Many shawl weavers have, as has been stated before, left Kashmir and settled elsewhere; others have taken to carpet making or embroidery. Still the number of shawl weavers is large. The Census of 1921 registered five shawl and one *hāshia* shawl factories in Srinagar.

The following articles are now produced :

1. Plain *pashmina*.
2. Long shawl with border, *palla* and *kunj*, Ekrukha and Durukha.
3. Jámawār, Ekrukha and Durukha of various patterns or designs.
4. Sāries.
5. Ladies' embroidered shawls—half shawls, with embroide-

ries so arranged as to show both the exposed surfaces when folded across the middle.

6. Capes, blouses, *chogas* and dress pieces, with needle work called *Dávkár* and *Katunkár*.

Ekrukha Jámawárs still find market in Persia, Afghánistán and Hyderábád. *Durukha Jámawárs* and long shawls are in demand in Bengal.

The use of imported European wool threatens the extinction of what remains of the shawl industry. Cheap German and Australian yarn is imported in large quantities and is used for various purposes for which *pashm* was formerly used. *Raffie* is made from this wool and sometimes sold as *pashmina*. The *raffle* is rough and not durable and altogether a flimsy article, but, in the hands of the expert weavers of Kashmir, it is a clever imitation. Real *pashmina* will last a lifetime, but the life of the *raffle* is not more than three or four years.

It is, of course, impossible for the shawl industry to regain its lost position. It is difficult to imagine that fashion will again turn in favour of the Kashmir shawl. It will never be again the necessary complement of a wedding trousseau in Europe. Fashion is a great tyrant. But there are signs in the whole civilized world of an awakening of true artistic instinct and it is being acknowledged that the traditional handicraft work of the East represents the highest perfection of art. "It provides," as a recent writer says, "examples of absolute perfection for the inspiration of that general elevation of thought and feeling which all true students receive from the contemplation of masterpieces of art and invention, without which it is impossible to excel in any human undertaking."

There is, therefore, every hope of this masterpiece of the weaver's art again receiving the appreciation it deserves. It may not reappear in the same form as before, but may re-assert itself in another form more adapted to modern taste, which is distinctly changing into the artistic. In the history of the Kashmir shawl there have been many periods of ruin and revival, and the present, I think, is the time when an earnest effort is needed and, if done in the right manner, the creation of the Kashmiri

weaver's loom may again become the most fashionable garment in Europe.

But shawl is not the be-all and end-all of the industries. The Kashmiri finds scope for his artistic faculties in many other directions. The industrial development of Srinagar has been very rapid in recent years, thanks to the peace and contentment enjoyed under the benign rule of His Highness the Mahārāja. The present leading industries are wood-carving, silver and copper work, embroidery, *papier maché* and carpets. They have attained to a degree of excellence and their qualities are fast improving. These works of art are in increasing demand all over the world and there is, therefore, a great and prosperous future before this State.

II

CARPET INDUSTRY

Kashmir is celebrated in both prose and poetry for its natural beauty and its people for their intelligence and artistic faculty. Favoured by a temperate climate, and possessed of natural gifts of brain and muscle, the Kashmiri from ancient times showed a capacity for steady and unflinching application to industries. Nature provided him with abundance of raw materials which his genius manufactured into articles of luxury, displaying a highly refined artistic taste most delicately in harmony with the beautiful sceneries with which he was surrounded. The thick green woods, the wealth of flowers, the meandering river, the calm lakes with blue mountains crested with snow looking on, showed wonderful patterns of Nature's finest arts, and they did not go unobserved by the intelligent eye of the Kashmiri whose imitative instinct was developed to a marvellous degree. Shown a pattern, no matter how intricate and elaborate, he tried and tried again until he succeeded in copying it truly and faithfully. The dignity of labour was thoroughly understood by him and he ever applied himself to arts and crafts. Assured of his position and also assured of his purpose and value and, therefore, not needing to accumulate wealth, and observing, too, the desperate struggle for existence of others not lucky enough to know skilful labour

like himself, he gave to his work that contentment of mind and pleasure for its own sake which are essential to all artistic excellence.

One of the principal industries in which the Kashmiri attained mastery and the products of which are even today esteemed in Europe and America is carpet-weaving. The art was introduced into this country by Zain-ul-ábidin who ruled in Kashmir from 1420 to 1470 A.D. He was one of the best Muhammadan kings—good, merciful, generous and kind, a patron of learning and arts, and, above all, of tolerant principles. He was surnamed, and deservedly, Bad Sháh or the Great King. This is not the place, nor mine the hand, to describe his eventful and benevolent rule which healed the lacerating wounds and lulled the wail of the people which his predecessors, specially Dulchu, RENCHAN SHÁH, Sikander the Iconoclast and Ali Sháh had, during the previous one hundred years, caused, the accounts of which have sullied the pages of the history of Kashmir.

It will be interesting to know how Zain-ul-ábidin was led to the introduction of carpet-weaving into Kashmir. In 1397 A.D. Timúr Lang or Tamerlane, after his conquest of Persia and Turkistán, came to India. Sikander But-shikan was then the ruler of Kashmir and when Tamerlane reached Attock, Sikander wrote to him acknowledging him as his liege lord. Tamerlane was pleased at this and sent him one elephant and other gifts in token of his accepting Sikander's allegiance. On receipt of these, Sikander sent several precious articles as presents to Tamerlane and wrote to him praying for the honour of being permitted to come in his audience to pay homage to him. Tamerlane replied that he should come to meet him at Attock when he would be returning after the conquest of Hindustán.

When Tamerlane was returning to Samarqand after his sanguinary and plundering career in Hindustan, Sikander started from Srinagar with various rare articles which he wanted to present to him at Attock. But he had not gone farther than Báramulla when news was received that Tamerlane had already proceeded from Attock to wards Samarqand. Sikander then returned to Srinagar and sent his second son, Sháhi Khán, then a young boy, with the presents to Tamerlane at Samarqand. Sháhi Khán carried out his father's mission successfully. Tamerlane bestowed much

favour upon Sháhi Khán, but the latter could not obtain permission to return to Kashmir for seven years. During this long period Sháhi Khán took the opportunity of interesting himself in the arts and crafts of Samarqand which, being the capital of the great conqueror, was at the height of its wealth and glory. When Tamerlane died in 1405 A.D. while conducting a vast expedition against China over the mountains of Tartary, Sháhi Khán returned to Kashmir.

Sikander died in 1413 A.D. and was succeeded by his eldest son, Sultán Ali Sháh. The latter ruled for about seven years and then Sháhi Khán ascended the throne, assuming the title of Zain-ul-ábidin. Imbued with high ideals of kingship, he set himself to improve the material prosperity of the country by energetically sustaining and developing its manufactures. He brought carpet-weavers from Samarqand and started the industry of carpet-weaving in this country. He also brought saddlers, bookbinders, gunsmiths, *papier maché* makers, paper manufacturers, lapidaries, stone cutters, midwives, musicians, and firework makers from Samarqand and made them settle here permanently.

Mirza Haider of Káshgar, who came to Kashmir in 1540 A.D. and became the Minister of Sultán Názuk Sháh, the then ruler of Kashmir, writes in his book *Tarikh-i-Rashidi*:

“In Kashmir one meets with all those arts and crafts which are in most cities uncommon, such as stone-polishing, stone-cutting, bottle-making, window-cutting, gold-beating, etc. In the whole Máver-ul-Nahar (the country beyond the river Oxus, i.e., Khurásán) except in Samarqand and Bukhára, these are nowhere to be met with, while in Kashmir they are even abundant. This is all due to Sultán Zain-ul-ábidin.”

Zain-ul-ábidin turned Kashmir into a smiling garden of industries, inculcating in the hearts of the people sane conceptions of labour and life, and also implanting in their minds the germs of real progress. He introduced correct measures and weights and made artisans and traders take solemn oath (which in those halcyon days one could not easily break) not to kill their golden goose by cheating and swindling. He thus promoted commercial morality and integrity and industrial righteousness—qualities which constitute the backbone of a people's credit and reputa-

tion. The motto of the Kashmiri trader was—*Bázigaras chheh bázi garas*, “A swindler swindles his own house.” It was through these virtues that the Kashmiris successfully carried on their shawl trade of half a crore of rupees annually with distant corners of the globe at a period when Kashmir was an isolated country and communication with the outer world was very difficult. How regrettable it is that the people now have been slowly drifting from their old moorings. It, however, proves, beyond all doubt, that industrialism has greatly declined at the present day. With its growth, craftiness and chicanery give way to an increasing straightforwardness of dealing between man and man, the people being lifted up to a higher standard of commercial morality.

Zain-ul-ábidin died after a glorious reign, extending over more than 50 years. Long was his death lamented and even up to this day the people take his name with reverence and gratitude as a word of good omen. No tribute can repay the debt Kashmir owes to him forever. The poet chronicled the year of his demise in this feelingly rendered Persian stanza—

*Sultán Zain-ul ábidin zad khima dar Khulde-barin
Be nūr shud táj o nagin be hur shud arzo samá
Az bahri tárikhash 'ayán be sar shudah ander jahán
'Adlo karam 'ilm o 'alam jáh o hasham sulh o safa.*

“Sultán Zain-ul-ábidin went to dwell in heaven.

The crown and the seal became lustreless, the earth and the sky became gloomy,

From that date evidently headless became in the world
Justice and generosity, learning and power, glory and pomp,
peace and tolerance.”

The carpet-weaving industry flourished ever afterwards, but once it declined entirely, so much so that there was no one in Kashmir who knew the art. Three hundred years ago in the time of Ahmed Beg Khán, one of the Emperor Jahángir's Governors of Kashmir from 1614 to 1618, a Kashmiri, named Akhun Rahnumá, went to perform the Haj pilgrimage via Central Asia. On his way back he visited Andiján in Persia where carpets were manufactured. He learnt the art and brought

the carpet-weaving tools with him from there. He taught some people and made them re-start the industry in Kashmir with the result that they made a fortune out of it. Once, it is said, he went to them but, proud with their wealth, they would not recognise him. Akhun Rahnumá thereupon cursed them, *Zindus dung-dawál marit nirnak nah kafan tih*, meaning that "during lifetime they may live in plenty and when dead even cloth for their shroud may not be forthcoming." The carpet-weavers, though on the whole well-fed and well-housed, work for the minimum sustenance and cannot afford to lay by any money, and they ascribe it to Akhun Rahnumá's curse. Akhun Rahnumá's tomb is at the Gojwara Mohalla in Srinagar, and is held in great reverence by carpet-weavers.

The carpet is woven on the loom of a very simple construction; the warp threads, which are of cotton, are arranged in parallel order upright and the fabric and pattern are produced by coloured woollen threads upon the warp. The same method as in weaving the shawl is employed by the carpet-weaver in converting his original design, which is prepared by a *Naqásh*, into a textile. Instead of working from a coloured drawing or diagram, he has the pattern translated on paper into rows of symbols, each of which expresses the number of threads to be tied in and the colour. The man who translates the pattern into written "key" is called *Khahan Wol*.

The weaver has threads of every required colour in double or treble folds wound up into balls hanging down from a string with its two ends tied horizontally with the upper ends of the side pillars of the loom, and, with this written key, or *t'alim* as called by the Kashmiris, he ties in the stated number of threads of each colour as in the ciphered script, over each row of which a double woof shot of thick cotton twine is passed, the fingers being here employed instead of shuttle needles as the fabric is of a coarser description. The woof is pressed down by an iron comb. The weaver cuts each thread, after its being knotted into the warp, with a curved knife and then the whole row is made even with the surface of the carpet by clipping with a shears. He does all this with marvellous deftness, knowing nothing of the patterns he is preparing, but gradually building up in a mechanical way the carpet on the warp before him.

Formerly, the weavers used to tie in the threads of different colours by looking into the design itself, but His Highness the late Mahárāja Ránbir Singh ordered a large carpet for the Ajáib Ghar Hall in which His Majesty the late King Edward VII, then Prince of Wales, was to stay during the visit to Jammu in 1875, and as the time for manufacturing it was short and the number of skilful weavers was then, it is said, only 13, Khwája Amir Ju Gangu, who had the order to prepare it, introduced *t'alim*, as in shawl-weaving, at the suggestion of a *Khahan Wol*, named Abli Mir, in weaving the carpet, with the result that even unskilful workers were employed and the carpet was prepared speedily. Since then this method, which is not only easy but also precludes mistakes, has come into vogue.

Persia is, and has been from the most remote times, the recognised source of what is most truly artistic, durable and valuable in the manufacture of carpets.

The pile carpets were made in Kashmir and attained great perfection. The oldest Kashmir carpets were of floral design with mosques, gardens, wild animals, gliding fish, etc. At the Delhi Exhibition a magnificent carpet, made in Kashmir 250 years ago, was sent from Bijapore. How much proficiency the Kashmir carpet-weavers had attained in reproducing Nature's lovely sights on their looms, will be apparent from the following anecdote :

Mahárāja Ranjit Singh could never visit Kashmir, though he longed to do so and even started from Lahore in 1832 to fulfil his desire, but had to return from Punch owing to the occurrence of famine in Kashmir then. Once he wrote in a letter to Col. Mián Singh, one of his governors of Kashmir from 1834 to 1841:

"Would that I could only once in my life enjoy the delight of wandering through the gardens of Kashmir fragrant with almond blossoms, and sitting on the fresh green turf !"

The governor, in order to gratify, nay, to intensify his master's desire, got prepared one fine green coloured carpet, dotted with little pink spots and interspersed with tiny little pearl-like dots, which looked like green turf with pink petals of almond-tree blossoms fallen on it and dew glistening thereon as in the spring time. This was a masterpiece of the Kashmir carpet-weaver's art. It

was presented to the Mahārāja at Lahore, and as soon as he saw it, he was so struck with its beauty of design executed in such artistic excellence that he rolled himself thereon in ecstasy feigning to be rolling on the real Kashmir turf ! The chief weavers of this exquisite carpet were named Fazl Ján, Jabbár Khán and Kamál Ju, who were given a reward of a pair of gold bracelets each by the Mahārāja.

The carpets of Kashmir, however, soon deteriorated. The modern craze for cheapness spoiled this as well as other works of art. The quality of the material was not equal to that of the past. The workmen lost the large conception of their ancestors. They would not teach one another, and trade secrets were jealously guarded. The patterns lacked repose and there was not the time nor the inclination to produce the bold and highly conventional designs on a ground of extreme closeness of stitch. But the greatest evil was wrought by the importation of aniline and alizarine dyes. In place of the cool harmony of colour, bright magenta appeared. The old Persian test of dropping a piece of live charcoal on to the pile to see if any traces of the injury remained after brushing away the singed top, is one we should hesitate to apply to a modern carpet.

An endeavour was made in the time of Mahārāja Ranbir Singh to improve the industry. An European trader, named Mr. Chapman, came here about 1876 A.D. to manufacture carpets and export them to Europe and Mián Lál Din, the officer in-charge of the State Workshops, was directed by the Mahārāja to assist him. Mián Lál Din deputed Kh. Muhammad Sháh Paizár (whose house, by the way, is now occupied by the Mission High School at Fateh Kadal) as his agent with Mr. Chapman for rendering him all assistance he required. For two years Mr. Chapman worked and introduced new designs and made carpets of improved qualities. But they failed to satisfy a critical test in Europe. He then gave up the business and went away. After him M. Bigex, a Frenchman, came and commenced manufacturing carpets for the firm of Bon-Marche in France. He introduced fresh designs and brought also his own dyes from Europe. Bon-Marche sent their agent, named M. Agard, to Kashmir, to advise M. Bigex what designs would be liked in Europe.

M. Agard was a connoisseur in selected carpets of right designs but not in prescribing the designs themselves ; that is to say, he could not say so long as a carpet was being woven whether it would suit the taste of the customer or not, but would make his declaration that it would suit or would not suit after the carpet was completed. M. Bigex manufactured a large number of carpets which were rejected by M. Agard and the consequence was that he suffered great loss in the business and then he abandoned it.

The attempts made by these two European gentlemen for improving the industry did more harm than good to the art. Instead of conserving the true Kashmir style, they corrupted it by modernising and hybridising it under the influence of foreign ideas, and the dyes they used were not quite fast.

After M. Bigex, the industry was taken up by Mon. H. Dauvergne. Being himself a clever designist and expert in dyeing and having had the experience of shawl trade in Kashmir and having also studied the European markets, he achieved much success in the business. His factory was subsequently purchased by Messrs. W. Mitchel & Co. Another factory was started by Messrs. C. M. Hadow & Co. Both the factories which, according to the census of 1911, employ 2,203 weavers, are now in a most flourishing condition, producing excellent carpets of old designs. The former gained the Grand Prix both at the Paris Exhibition of 1900 and the London Exhibition of 1906 with gold medal and wreath of gold; and the latter secured a bronze medal with a certificate of merit at the Chicago Exhibition of 1893 and a first class certificate with gold medal at the Delhi Durbar (1902-03) awarded by the late Rájá Sir Baldev Singh of Poonah. Messrs. Mitchell & Co. supplied carpets to Her Majesty the Queen both for Buckingham Palace and for Windsor, measuring 50' x 30' at a cost of £ 250 a piece. The carpets of both the above firms are in great demand in Europe and America.

Carpets with as many as 400 knots to the square inch are now made and silk and *pashmina* wool are sometimes used to bring out the more delicate shadings in the designs, and the stitch, which the Persian weavers used in order to give their carpets density combined with pliancy, has been adopted. Herati and Kerman

carpets have been produced. The Yárkandi patterns were imitated, also the Tree of Life, Swastika and the Trishula, all according to the prevailing taste of the period.

The Ardabil mosque carpet was reproduced in exquisite finish of workmanship at Messrs. C.M. Hadow & Co.'s factory in 1902. It will be interesting to know the description of this famous carpet which is admirable alike for its fineness of texture, its beauty of colour and symmetry of design. It is in the Victoria and Albert Museum for which it was purchased for £ 2,000. It measures 34 ft. by 17 ft. 6 inches and contains 380 hand-tied knots to the square inch which gives over 32,500,000 knots to the whole carpet. It is so-called from a Persian town in the Province of Aderbaidján where it is said to have been obtained from a mosque. The main design comprises a large central medallion in pale yellow, surrounded by cartouches of various colours, disposed on a dark blue ground diapered with floral tracery. Each of the corners is filled with a section of a large medallion surrounded by cartouches. The border is composed of long and circular panels alternating with lobed outlines on a brown ground covered with floral embellishments, while at the summit of the carpet is a panel bearing the following devout inscription :

Juz ástáni tuam dar jahán panáhe nist

Sare mará bajuz in dar hawálgáhe nist

Amali bandah dargáh Maqsúdi Kásháni Sana 946.

tending to the inference that the carpet was originally used as a veil or curtain for a porch, and that it was the work of the "slave of the portal, Maqsúd of Káshán, in the year of Hijra 946," corresponding to A.D. 1540. Kashan is on the high road between Tehrán and Isphahán where numerous manufactories of carpets, shawls, brocades and silk fabrics are still carried on. The pattern of the Ardabil carpet seems to be one perfectly distinct and regular, and, even did it present some slight obscurities, the puzzle could be easily cleared up by a careful and minute analysis and dissection of the whole work by the aid of practical geometry and conventional botany.

Messrs. C.M. Hadow & Co.'s copy of this celebrated carpet was purchased by the late Lord Curzon for £ 100.

The patterns now chiefly used in Kashmir are copies from the illustrations of Oriental carpets published by the Imperial and Royal Austrian Commercial Museum, and special attention is paid to make the colours fast.

Sir George Birdwood writing in 1880 said :

“As a striking illustration of the corruption of native designs under European influence it is only necessary to compare the two old Kashmir carpets lent to the India Museum by Mr. Vincent Robinson with the large Kashmir Durbar carpet exhibited by him at Paris in 1878. The two former carpets were probably made early in the last century. The ground in one is pale yellow and in the other rose of varying shades, and the floral pattern decorating it is in half tones of variety of colours. The borders are weak as in all Kashmir carpets, not being sufficiently distinguished from the centre, but the colouring and general effect are so serene and pleasing that this does not appear as a defect. The Kashmir Durbar carpet exhibited by Mr. Vincent Robinson at Paris was a typical illustration of the modern manufacture of Srinagar. The large scroll laid about its borders in such agonized contortions had evidently been copied from the shawl patterns introduced by the French houses into Kashmir about ten years ago. The wool of these modern Srinagar carpets is good, and the texture of the carpets themselves is not bad but it is hardly possible that they can ever again be made to satisfy a critical taste. The colours introduced are not suited for the floor of a room, particularly the green, even if they were harmoniously blended. The floor of a furnished room, in which the great need is to see the furniture distinctly, can scarcely be too grave in tone, and it is evident that the Kashmir dyes are fitted only for shawls and *portières* and tapestries for walls where it is a pleasure to the eye to be attracted by lively colouring.”

But the industry has been revived and the carpets now produced under European supervision do not fail to satisfy a critical taste.

The manufacture of carpets is capable of wide extension and has a great future before it, if only somehow aniline dyes could

be kept out of the country, and the vegetable dyes, which are available in abundance on the surrounding hills and whose soft and permanent colouring of the shawls is still the admiration of the world, were used again. These dyes are no doubt more expensive. At the time they were used, dyeing of one seer of wool would cost 6 *khám* rupees which valued as much as 12 British rupees of the present day, while now dyeing with the aniline dyes costs only 8 annas per seer. This vast difference between the two rates tempts everyone generally to use aniline dyes, but a wise man, who wants build up his industry on a sure foundation, will prefer the vegetable dyes. Besides, their cost under improved methods could be much reduced. If this was done, the Kashmir carpets would command world-wide sale and the carpet-weavers, together with their employers, would derive immense profits therefrom. The carpet-weavers were always in demand in the past, hence the proverb *Qálbáfas kálas tih báv*, "A carpet-weaver is in demand even in famine times." They will be much more so in the future. Their hand, as of all Kashmiri craftsmen and artisans is no doubt supple and wonderfully trained, but it has not yet been brought into systematic and organic co-operation with their eye and brain. When that is effected, it shall react upon the industrial arts and, again, shall react upon their own value in the labour market to an extent which can hardly be measured.

III

PAPIER MACHE

Kashmir is a land where Nature is entirely gracious. Its fertile lands through which the broad-bosomed Jhelum and its numerous tributaries meander; its mirror-like lakes reflecting the mountains clothed in various hues and shades and crested with snow; its lovely sceneries of green woods and meadows; and its ideally healthy climate—these form subjects of songs rapturously sung by poets like Moore and Tollemache.

Beautiful environments have the effect of making man beautiful and of polished taste, and this explains the fact that the inhabitants of the Happy Valley are intelligent and quick in

appreciating Nature's finest sceneries which they reproduce with marvellous fidelity in their works of art.

Speaking of olden times, the simple life the Kashmiri lived left him in peace and plenty and enabled him to concentrate his whole soul on his work and kept his mind free and receptive to the voices of Nature and his own inspiration—the soul of Nature speaking to the soul of man. This cannot unfortunately be said of the Kashmiri of the present day whose artistic intellect, under the influence of modern craze for cheapness, and by the stress of living in these hard times, is somewhat dulled. The artisan, bewildered in a forest of half-understood beauty, has lost the large conception of his ancestors, though he still retains the artistic skill inherited by him from his forefathers.

Papier maché is an art which Kashmir can claim as peculiarly its own. It was introduced, among many other arts, into Kashmir from Samarqand by King Zain-ul-ábidin who reigned from 1420 to 1470 A.D. Possessed of broad and tolerant outlook and dominated with a desire to benefit mankind, he ruled with such equity and justice and did so much to improve the material prosperity of the people that one cannot fail to admire him. His benevolent rule demands special homage, inasmuch as he lived at a period when he had no worthy and enlightened contemporary to emulate. In the world around him he could have found little to help him. He was potentate encouraged to be tyrannical and selfish by tradition and especially by the examples of his father, Sikander the Iconoclast, the account of whose horrible deeds blacken many a page of the *Rajatarangini*. Zain-ul-ábidin was deservedly surnamed Bad Sháh or Great King. In spite of six centuries having rolled by since he lived, his name is still remembered with genuine reverence and gratitude. Take the name of Bad Sháh before a Kashmiri and at once he will with a happy countenance, rhyme it with “Pád Sháh”.

The process of making *papier maché* is very elaborate. It is matter of days or even weeks. First, several layers of Kashmiri paper are pasted on the mould of a required article, or *vasal* as is called by the workmen, and then pulp made of Kashmiri scrap pounded and mixed with rice paste is laid to requisite thickness, and over it again is pasted Kashmiri paper, layer upon layer, by the repeated slow process of drying and adding. After

obtaining the correct shape, the mould is removed. Then the surface is made even by rubbing it with a file. All inequalities are made good and the knots, etc., removed. After that, it is wrapped round with thin cloth and covered with *gutch*. The *gutch* used must be from an old plastered wall of a room, which is ground fine and mixed with glue and water.

The surface is then smoothed by rubbing it gently with a piece of hard burnt brick, called *kurkut* in Kashmiri. Over this is applied a stain, called *astar* by the workmen, which is prepared by rubbing together with water a kind of stone called *basvatar* which is found in a quarry at Mánasbal. On this stain is applied *safeda Kashgari* (white powder) mixed with glue and water, and over it the *zamin* or ground colour is applied. This colour may be gold, cochineal, ultra-marine, white lead, verdigris, etc. When dry, the outlines are generally drawn with *zarda* or yellow colour, and the spaces delineated for floral work are stained with *astar* and white paint.

Then the floral work in different colours is traced. The art lies here. It is an interesting sight to see an old artist elaborating from memory, without the aid of any geometrical instruments, patterns of difficult artistic designs in rich and subdued colours. The opening work, called *rakha* or *partáz* by the workmen, is done with crimson or any other appropriate colour. If the floral work is to be done in gold or silver, then over the spaces left for such work is applied the *dor*, a preparation made of *zarda* mixed with glue and sugar, and over it are applied gold or silver leaves. The leaves stick to only those parts where the *dor* has been applied. The opening work on gold or silver is done with soot dissolved in water with glue, or with purple or crimson colours. When thoroughly set, the whole is varnished with *kahruba* (amber) or *sandirus* (copal) dissolved in linseed oil. It is then kept in the sun to dry. After it dries, the surface is rubbed with a wet grass rope and washed clean. After this, gold or silver leaves are dissolved in water with salt and glue, and with it further opening work is done. Then the surface is polished by rubbing it with a piece of *yasham* stone (jade) which is imported from Khutan. Last of all, another coating of varnish is applied and it is dried in the sun.

The art of *papier maché* which involves a wonderful technical skill, is pursued by only the Kashmiri Muhammadans of the Shia sect, there being only one Suni family pursuing this profession. There was only one man in the whole of Kashmir who could draw sketches of crests on *papier maché* work, which were so correctly drawn as to come up to the accuracy of photographs. This man was a Pandit, named Nárán Murtsagar. He is now dead and, having no son or a near relative, has not taught the mysteries of his art to anyone, with the selfish object of keeping the monopoly to himself. With his death, therefore, this branch of the art of *papier maché* has sustained a heavy blow. There were many master-artists in the past who carried the *papier maché* art to the highest pitch of excellence and the last one was Sayid Turáb who died about 50 years ago.

The number of *papier maché* workmen is about 150. They earn decent sums of money, but assured of their readily paying labour, they at once spend all they get, not caring for the morrow. The consequence is that sometimes a workman finds no fuel in his house to cook his meal with, but, assured of his firm position in the labour market, he dismantles light-heartedly the timber wall of his house and uses it for the fuel, re-erecting it next day by selling the products of his skill. So his timber wall is like the model of his art, viz., Nature, undergoing alternate destruction and construction.

At present *papier maché* articles, valued at Rs. 15,000, are made annually. At one time goods valued at Rs. 10,000 were sold at Kabul, and Rs. 20,000 in France and other European countries. The articles in demand in Kabul were snuff boxes, pen cases (*qalamdāns*), and trays. The *qalamdāns* were of two kinds, *masnadi* (small) and *farshi* (large). Shields, bows and arrows with case, and combs were also made. Every Pandit in former times had a *qalamdan* of his own which he carried in the girdle bound over his *phiran* or garment round his loin or under his armpit wherever he went. These *qalamdāns* were exquisite works of art.

The Lamas of Lhasa at one time indented for a kind of table called *Saksha* on which were placed two books (*Fekru*) and nine pieces of wood. The table was beautifully worked in Chinese pattern in gold and red and green medallions.

Under the influence of the French shawl agents, other articles were made, such as boxes, vases and *surahis*. Shawls were sent to France in *papier mache* boxes which were separately sold there at high prices. Lacquered work was also used for the decoration of ceilings, and various other purposes such as palanquins, howdas, etc.

Five hundred rupees were formerly collected as tax by the State from *papier mache* workmen in Srinager, which tax was remitted by His Highness the late Maharaja Ranbir Singh in 1876. No workman of one firm could be employed by another without permission, lest he should divulge the art secrets of one to the other. Maharaja Ranbir Singh greatly patronised this industry and usually presented *papier mache* coffee sets to his European friends.

The articles usually made now are picture frames, screens, bedstead-legs, tables, teapoys, trays, vases and glove, handkerchief card and stamp boxes, candlesticks, writing sets and various other articles. The work is extended to floral decorations and illuminations of books, memorials, etc.

Papier mache work has greatly deteriorated of late. The Kashmiri artist does not adjust the size of his objects to their relative position in space. He abhors a vacuum. The articles formerly made were marked for colourings—subdued, subtle and full of gradations of tone and shade. The preparation of a pigment required many days' hard labour of rubbing it in a pestle with mortar and then it became so permanent as to last an age unfaded, but now cheap aniline dyes and German gold dust mixed with glue and sugar and dissolved in water, and copal varnish with turpentine or spirit of wine are usually used which have no permanency. The best *qalamdars* are now seldom made, for there is no demand for them; the times have changed, inkstands, pens, penknives and scissors, which the *qalamdars* were meant to contain, being provided free by the State to all clerks on their office tables which often jumble up like kitchen pots and spoons; soiling both the kitchen and the cook. The present-day *qalamdan* is the black and ugly stylographic pen with an unreliable nib to boot.

In place of paper, soft-grained wood is now used. *Papier mache* on imported cards or straw millboards passes for real

work made on pulp and Kashmiri paper. Silver or white lead on yellow paint, and over it a coating of the varnish made of *pyur* dissolved in linseed oil, passes for gold work. No pains are taken to prepare a proper *zamin*, and the designs and workmanship are very inferior and often hideous. The quaint shaped *suráhis* or vases, the moulding of which is very difficult, are now seldom made. The old designs have given place to modern ill-conceived patterns. The new designs are iris, chenar, cherry blossom, tulip and hyacinth with a great display of colours but destitute of art. The intricate free-hand scrolls are no more seen. The colours are bad and the varnish is not properly applied. An old *papier maché* article would retain its colour for 50 years or more and was none the worse even if dipped in water for days. It is a great pity that this beautiful art should be sacrificed for the sake of cheapness.

What, then, is to be done to stem the tide of this deterioration? The root cause of the deterioration of this and other works of true art is misunderstood utilitarianism and sordid avarice.

One of the propulsive forces of the time lies in the region of aesthetics. The growing desire for beauty is one of the most hopeful symptoms of a period when destructive appetites and passions make such a confused pattern of the page of history. But some people fill their houses with shoddy and showy abominations which serve simply to debase and degrade their art sense. If you want a picture frame, have one of the best workmanship which must possess both technical and decorative qualities, or else have none. It is better to keep the room empty than have cheap showy goods which instead of decorating, disfigure it. It is necessary to arouse among the people a true appreciation of art and beauty which is as much an essential factor of the mind as is the capacity to recognise that two and two make four. They must realise that man does not live by bread alone, and that art is no luxury but the common property of both the poorest and richest; it tends to elevate the mind and to create a dislike for all that is mean, dirty and sordid.

The very presence of graceful things at home is an education for all, and life, even in poverty, becomes pleasant when clad in beauty. When this taste is fostered and this sense of apprecia-

tion of beauty is aroused and the dislike for tawdry and vulgar rubbish is engendered in the minds of the people, then and then alone will there be demand for the supply of works of real beauty and art, with the result that the artisan will receive the encouragement he deserves, and the beautiful past will expand and grow into a still more beautiful future.

This will come about when education on aesthetic lines is imparted both in school and college and the interest of our boys is awakened to their country's treasures of art and to all that is beautiful and true. There can be no doubt that the aesthetic faculty is a part of divine nature which lifts mankind above the brute creation. If the laws of rhythm were applied to our arts a little more, there would be a great gain in the inherent value of the thought expressed, or the inspiration materialised. In the endeavour to delineate, not the thing, but the impression that the thing creates, the great idea has been lost in a maze of technical insurrection that has followed the main issue.

Behind the present understanding of the word art, there lies a beautiful, unexplored country in which it will not only be a joy to wander, but also we will become better and stronger beings because of our sojourn therein. Education on such lines would also react in immensely relieving and brightening the often dry and uninteresting routine of school and college work. "Art is a moral and intellectual educative force," says Mr. E. B. Havell, a great authority on Oriental Arts. It would enable the boys to appreciate what culture really means.

[Side by side with the education of the type recommended, there should be technical education imparted to those boys who cannot go higher than a secondary school, so that the arts and the accumulated skill of centuries in the manufacture of materials and wares, which have commanded the admiration of the world, may be preserved and improved. The Kashmiri has a great natural aptitude for ornamental designs which can be easily developed. The power to draw really good designs is one of the fundamental factors in artistic expression, just as the ability to speak fluent English is essential to the expression of a beautiful thought in English. He has the power and acumen enough within himself to carry on the great traditions of the past in the beauty and skill of his workmanship. What he now requires is the bringing

of his eye, mind and brain into systematic and organic co-operation with his hand which can be accomplished by technical education. Such an education will vitalise and breathe a new life into the industrial arts which will be the source of immense material prosperity to the State.

His Highness the Mahārāja, whose benevolent and glorious reign is distinguished for advancing the welfare of the people, has established a Technical Institute which is presided over by an expert.¹⁰ They are really fortune-builders of the country who avail themselves of technical education offered to them—an education calculated to promote their power of thinking, observing and experimenting correctly. Having attained this power, they will work wonders in developing the industrial arts and crafts, so that this State, which is a focus of attraction for seekers of health and lovers of natural beauty, will also be a centre of real interest to art lovers all the world over.

IV

PAPER-MAKING

Prior to the introduction of the art of paper-making, birch-bark was used for writing purposes in Kashmir. Numerous birch-bark manuscripts were taken by European, specially German, scholars to their own countries where they are preserved with utmost care and are being copied and printed on paper. There are still manuscripts on birch-bark in Kashmir but their number is very small.

The art of paper-making is known to have originated in China in the first or second century of the Christian era. It was brought to Samarqand about 1,300 years ago and there the crude Chinese methods underwent considerable improvement, notably the invention of the transfer mould. From Samarqand it was introduced into Kashmir during the reign of Zain-ul-ábidin (A.D. 1420-70) who imported paper-makers to establish the industry near Gán-

¹⁰ This was set up in Srinagar in 1912 in memory of Raja Amar Singh. A Polytechnic is now housed in an adjoining building, the original building of the Institute being occupied by Amar Singh College.

darbal, where water power was developed to pulp the rags, and at Naushehra to the north of Srinagar, where vats were erected to turn the pulp into paper. In these two localities the industry has remained ever since and without any improvement or advance on the Persian methods which have been retained in their entirety. In Kashmir we have something which is rare and unique in the world today, an art still being practised which, in all essential respects, has remained unchanged in method, appliances and product for 1,300 years and which has been preserved thus unaltered because of the excellence and ingenuity of the original inventions on which it is founded.

This industry is now in a state of indigence. Up to 20 years ago the competition of imported machine-made paper was not serious, but since then it has been rapid and destructive.

The following are the materials used in the manufacture of paper :

1. *Rags*.—These are old clothing, chiefly cotton, with some linen.
2. *Hemp*.—A small quantity of hemp fibre prepared by villagers from the wild hemp plant, is sometimes beaten in, and mixed with, the rag pulp. It is intended to increase the strength of the paper, but the quality used is so small that it does not call for much attention.
3. *Saz or Sazi*.—A crude carbonate of soda imported from the Punjáb. A small quantity of it (about $1\frac{1}{2}$ seers per maund of rags) is mixed with the rags during the beating operation, as is also about $\frac{3}{4}$ seer of slaked lime, with the object of assisting the softening the rags, and saponifying the grease they contain so that it may be more easily washed out. Used as they are in the cold, these chemicals can have no effect on colour. If the rags were *boiled* with them, the effect would be considerable, as they then would combine to form caustic soda (NaOH) which is a powerful decolouring agent.

4. *Fatkari*.—A crude alum produced at Kálá Bagh in the Punjáb.

5. *Starch*.—Made by the paper-makers themselves from rice. About seven seers of starch is obtained from four seers of rice. Used as a sizing agent to enable the paper to carry ink.

Preliminary Treatment of Raw Materials.—Rags are sorted over and selected. They are also torn into narrow strips. During these processes the loose dirt gets shaken out.

Washing.—This is done during the progress of the beating operation.

Beating.—This is the process of reducing the raw materials to a state of separation in which the ultimate filaments composing the natural fibre are free from each other and can be caused to float individually and separately in water. This is done by pounding in a stone mortar with an iron shod pestle activated by a pivoted beam which is raised by a spurred shaft driven by a primitive form of water-wheel. The strips of rags are fed into the mortar by hand. The pestle has a square head shod with iron and thus presents four straight-edged cutting planes to the sides of the mortar. These chop the rag strips into short pieces which drop under the pestle and are there pounded between its flat surface and the bottom of the mortar. The rags are worked slightly damped with water and small pinches of Saz and lime are thrown into the mortar at intervals. The process is repeated four times. With each successive stage the material reaches a finer condition of subdivision and the fourth and final beating brings it into the required state. Between each stage the pulp is washed in a trough formed by binding the ends of a piece of cloth, about six feet long, round the waists of two men who then stand in a stream of running water in such position that the trough and pulp is immersed in the stream, the top edges of cloth trough being above it. They agitate the pulp vigorously with their hand and the dirt passes through the mesh of the cloth and is carried away by the stream.

The pulp is then drained and pressed into cakes about a foot square, $1\frac{1}{2}$ inches thick. These are exposed to the sun to bleach. The bleaching effect is only on the surface and for about an eighth of an inch under it. But as the process is repeated four times, fresh surfaces are in turn exposed and the final result is a fairly good cream white.

Considered solely with regard to its effect upon the materials, the result must be described as excellent. The natural length of the ultimate fibres is well preserved and the fibrillation or splitting of the fibre ends into fibrils, which, in the process of moulding into a sheet, help the fibres to lay hold of, and interweave with each other and thus increase the strength of the paper.

Moulding—The cakes of washed, bleached and beaten pulp are sent to the vats at Naushehra to be made into paper. The pulp cakes are kneaded in an earthenware pot with water under men's feet to bring them into a 'free' condition in which they float in water. The pulp is then transferred to the vat with a large volume of water, the fibrous consistency of the mixture being under 0.5 per cent. of the whole. The vat has no agitator to prevent pulp settling down at the bottom. There is also no preliminary straining of the pulp to arrest 'knots' or unbeaten particles before reaching the vat. These simply go into the sheet and cause irregularities and blotches, some of which are picked off the sheet before it has consolidated on the mould. The thickness and the weight of the sheet are regulated (a) by the amount of pulp the vatman brings up from the bottom of the vat by the gentle waving agitation he produces with the lower part of his mould when he judges the mixture of pulp and water has reached the right consistency, and (b) by the number of 'dips' which he superimposes on the top of each other on his mould. Two thicknesses are in general use: one consisting of two dips and the other of three. The regularity of weight and thickness is remarkably good and this practice of superimposing successive 'dips' adds largely to the strength of the sheet.

The Mould — This is merely a square of cloth stretched over a wooden frame, the pulp being plastered over it. It embodies the principle of floating the pulp on to it, and, as the wet sheet

can be transferred from it, one mould can be used by the vatman continuously, alternately moulding and transferring sheets. Its advantage is that it moulds a sheet from one dip, and, being rigid instead of flexible, the wet sheet can be transferred to the transfer felt by one single and rapid motion. Further, in withdrawing it from the vat it creates a vacuum under it, which sucks a considerable amount of water out of the moulded sheet lying on its surface.

Couching.—As it is the mould which is flexible, the 'couch' has to be flat and rigid. A sloping board, somewhat larger than the size of paper being made, forms its foundation. On it is first laid an old worn out mould and on this a square of damped cloth. These together form an underlying drainage system for the pile of wet paper about to be raised on it, but the cloth is also required to give the necessary fibrous surface to which the first wet sheet will adhere in preference to sticking to the mould. Subsequent sheets are transferred on top of one another, the roughened surface of the wet paper being sufficient to cause the required amount of adhesion. A block of paper is thus formed, which preserves the flattened and sufficiently rigid form required to take the transfer from a flexible mould. When the block consists of about 72 sheets, another board is placed on top and this is loaded with stones and left all night to drain. In the morning a final additional squeeze is given by several men adding their weight to that of the stones.

Drying.—The sheets are carefully detached from each other and spread carefully on a specially prepared smooth mud wall exposed to the sun. Six to eight sheets are thus pasted or pressed on one another; they adhere merely by damp cohesion. When the 'wad' is dry, they are easily detached from each other.

Sizing.—This is done with the rice starch. It is rubbed on both sides of the sheet by the aid of a woollen mitt on the hand. The sheet is then hung up on ropes to dry. It is again dressed with starch and dried. For enabling the paper to carry native ink laid on with the reed pen, this method of sizing is fairly effective. Such ink is not a true solution, but consists of

carbon (lamp-black produced from burnt rice) in a state of fine suspension. The water may spread into the surrounding fibres, but the colouring matter is filtered back and remains where it is laid by the pen. But for modern inks, which are true solutions, such sizing is wholly ineffective and constitutes one of the most serious drawbacks to the usefulness of the paper. It is remarkable also for the enormous proportion of starch which the paper absorbs. Hence its great liability to insect and fungus attack. It is the starch which attracts them and there are few substances which are more attractive. The paper itself, unsized, is practically indestructible by any agencies less drastic than fire and acids. The only thing that is to be said in favour of starch sizing is that it is the most profitable part of the whole manufacture.

Glazing.—The sized paper is surfaced or polished by friction with a piece of polished agate fixed in a wooden handle. The result is somewhat irregular, but, on the whole, fairly efficient.

Yield of Paper from Materials.—The materials composing the paper are rags and starch, of which the former produces 70 per cent. and the latter 30 per cent. of the whole product. The starch yields practically its own weight without loss, although there is evidently a considerable loss in its transformation from rice. From one *kharwar* of 83 seers of rags received at the pulp mills 40 seers of paper are eventually produced, of which slightly under 40 seers come from rags, the remainder being due to starch. The nett ultimate yield of paper from the raw rags, excluding starch, is therefore, 37 per cent.

Production Costs.—It is stated that the total cost of producing one maund of paper is Rs. 28-9-0, exclusive of any profit or wages to factory proprietors. The present figures may, therefore, be tabulated as follows on the next page.

	Present cost per maund of paper
	Rs. A. P.
Rags	3 14 0
Sizing	3 8 0
Labour, etc.	21 3 0
Total	28 9 0

Quality of Paper Produced: Considered solely from the point of view of the methods and appliances in use, the quality must be pronounced remarkably good. Its strength is excellent even when judged by modern standards but, in all the other requirements of present-day demands, it fails badly.

In 1917, Mr. William Raitt, F.S.C., Consulting Cellulose Expert attached to the Forest Research Institute, Dhera Dun, U.P., came to Srinagar at the request of the Kashmir Durbar, to give advice in regard to the improvement of the paper industry. He made most valuable suggestions for improving the industry and prepared samples of paper which were of great strength and durability.

Mr. Raitt sized samples with gelatine which he made from goat skin and used no starch. The gelatine was 'fortified' by adding pure alum re-crystallised from the local *Fatkari*. This size was of excellent quality, but in practice it would probably be preferable to import dry leaf gelatine from rabbit pelts. The waterleaf sheets were dipped in the hot size solution slightly pressed and dried over ropes. Cost would be about 12 annas per seer of dry gelatine and 5 annas per cent. in the paper is sufficient. Its cost per maund of paper would be Re. 1-8-0 against the starch sizing which now costs Rs. 3-8-0.

It is hoped that in near future some private enterprise will take up this ancient industry and derive profit from it.

It may be stated here that paper-making from wood pulp is

also practicable in Kashmir. Suitable wood is found in abundance, such as the Silver Fir and *Daphne Papyracia*.

V

SERICULTURE

Sericulture is an ancient industry in Kashmir. The silk of this country found its way to Damascus and Bokhara ; and the Issidones, the inhabitants of modern Khotan, were the chief agents in the transmission of silk into Western Asia and Europe by the Oxus over the Hyrcanian Sea and the Black Sea. Mirza Haider, who ruled in Kashmir in 1540 A.D., writes in the *Tarikh-i-Rashidi* : "Among the wonders of Kashmir are the numbers of mulberry trees cultivated for their leaves for the production of silk." Silk flaunted itself far beyond the widest area that can possibly be described as "fashion". Even a poor woman put it in the front rank of "necessaries" and cherished it as a mystic kind of franchise. She thus asserted a claim to the right of living gracefully no less than the most favoured of fortune.

During the Pathán rule, this industry was dead and continued to be so during the Sikh rule.

Maharája Guláb Singh wanted to revive the industry and he succeeded to some extent. It was then placed in charge of Hakim Abdul Rahim. The modern industry, however, dates from the time of Maharája Ranbir Singh, who in the year 1871 made an attempt to organise sericulture on a very large and extensive scale placing the industry under the supervision of the late Mr. Nilamber Mukerji, C.I.E., who made great efforts and succeeded in improving it. The industry lingered on until 1882, and from that time to 1890 the State left it to the silk-rearers. In 1881, the industry was under Pandit Prakash Ju Zitshu. He arranged through Mr. Johnson, who had gone to visit Yarkand, to get some seed on paper-sheets, and they yielded a fairly good crop. But again in 1882 the worms died. The industry, however, survived total destruction. It was latterly placed under the supervision of Mr. R. Mukerji and the direction of Mr. (now Sir) Walter Lawrence. The silk produced was placed on the English market with satisfactory results.

In 1889, on the advice of Sir Edward Buck, Secretary to the

Government of India, it was decided to adopt the Pasteur system of microscopical examination. Good seed was imported from Italy and France and an excellent crop of cocoons was obtained. Sericulture was now placed under the supervision of Mr. C.B. Walton who greatly improved it. Ten new filatures on the European principles with Italian reeling machinery were erected at Ram Bagh where the present Factory is situated. Seed was imported from Europe.

In the same year the attention of Sir Thomas Wardle, a silk-dyer and manufacturer of Leeds and President of the Silk Association of Great Britain and Ireland, who took great interest in the silk industry, was drawn to the decline of sericulture in Kashmir, and in 1890 he advised the Kashmir State through the Resident to revive the industry on a commercial scale and in a more scientific and extensive manner. On his advice the State appointed an expert who insisted that it should directly engage itself in the industry and not leave it to private enterprise. As the indigenous seed was mostly destroyed, seed brought from Italy and France was distributed among the ryots. The desirability of continual import of foreign seed was once seriously questioned, but at a conference on sericulture at Srinagar it was decided to continue the practice in order to avoid the danger of impure eggs. Only univoltine worms, from which is chiefly obtained the usual silk of commerce, are grown in Kashmir. The climatic conditions are eminently suitable for the cultivation of this kind as also for the growth of the mulberry trees upon which the worms are fed.

Mr. Walton died in 1904 and he was succeeded by Mr. H. D. Douglas, then Assistant Director of Sericulture. In the year 1907, a fire broke out at the Factory, destroying three filatures with their contents. These being insured, the loss was made good by the Insurance Company. They were soon replaced by two large filatures, each containing over 300 basins and were installed with electricity both for reeling cocoons and turning the reels. But again, in 1913, another fire destroyed the whole Factory together with the whole year's cocoon crop. As the buildings and stock were insured, the loss was, to a certain extent, made good by the Insurance Company. Mr. Douglas retired at the end of 1913 and was succeeded by Mr. M. L. McNamara, the present

popular Director. The Factory was reconstructed. For the storage of cocoons, godowns have been built which are almost fire-proof. These buildings, along with others, have been installed with sprinkler installation to reduce the risk of fire.

Money was spent unstintingly by the State and the results justified the expenditure, for from the year 1913 the State was able to make a clear profit of seven to nine lakhs of rupees a year. The State makes a net profit of some 25 lakhs of rupees on this monopoly every year. As regards the quality, a French firm gave their opinion as follows a few years back : "We find that the standard is more regular than in previous bales, there is a sensible improvement in the regularity and this gives more value to the goods." Kashmir also serves as a training ground for sericulture and the silk industry, as will be seen from the following extract from an agricultural bulletin from Mesopotamia—"The Kashmir Government have kindly consented to train on behalf of the National Government of Mesopotamia, Saiyed Ebrahim Effendi of Maladhim. His departure to Kashmir has been definitely arranged for a period of six months. On his return he will bring with him specimens of the modern, simple and cheap apparatus used in sericulture in Kashmir where the industry is flourishing."

In the year 1923, there were 46,431 rearers of silkworms and 34,948 maunds of cocoons were brought in, from which 2,05,376 lbs. of silk and 1,01,588 lbs. of waste were produced.¹ Another factory has been opened at Jammu and it yields a handsome income and provides employment to a large number of people.

At one time was seriously discussed the question of the industry being transferred to private enterprise, and in the following words which Lord Curzon used at Jaipore in April 1902 he is believed to have referred to the undesirability of the project. At a Durbar in 1903, His Highness the Mahārāja spoke strongly against the transfer of the industry to private enterprise.

Though Kashmir now possesses the biggest silk filature in the world, dyeing and weaving of silk are neglected. The silk is exported to France and comes back as finished product and the railway rates help this process, because through transit from

¹ The total raw silk production in the State has gone up to over 48 lakh lbs.

Kashmir to the port of transhipment is less costly than to other parts of the country.

Even though silk and rearing of the silk worms are referred to in Chinese records as far back as 2,000 years B.C., though there are references in ancient Indian literature to sericulture, and even though Kashmir history records silk specifically, no mention of the silkworm diseases is to be found in any of these. The earliest and the first records of the diseases are to be found in a treatise published in Europe in 1599, and in this and in several other books symptoms of some diseases are mentioned, but it was not until 1865-70, when M. Pasteur commenced his research work, that order began to appear in the diagnosis of silkworm diseases. The above hypothesis must not at all lead us to think that the silkworm diseases were non-existent before.

The seed examination, on scientific lines, is of recent introduction here. In 1906, an experiment is said to have been made on the Pasteur system when about ten ounces of eggs were produced from about two maunds of cocoons. Every year the quantity was increased till 1909, when an up-to-date grainage was established at Srinagar. The results proving satisfactory, two more seed-houses were later on established with the result that about 19,000 ounces of seed are annually produced from these three reproduction houses. The diseases also have more or less been got under control, and in fact the quantity of seed produced by these three houses is nearly half of the quantity required for distribution every year to the silkworm rearers in Kashmir. How the eggs are produced and what difficulties beset this operation will be dealt with later on, but suffice it to say here that the reproduction work has proved highly satisfactory. The local eggs, as these are called here, have always given better results than those purchased from Europe.

Cellular seed is produced in the seed houses and supplied to the farmers. Besides producing more healthy and good seed, these houses give work to many unemployed sons of the soil and save the State a large sum of money every year. Recently, there has been a great demand for Kashmir selected seed from India and other parts of Asia and the sales in this way also tend to the extra income of the State. Kashmir climate, it is believed, is decidedly suited for producing seed from *Bombyx-Mori*.

The silkworm diseases may conveniently be divided into those caused by parasites and those caused by bacteria. Pebrine and Muscardine go under the first heading and Flaucherie and Grasserie under the second. The former are the worst of all the silkworm diseases. Mention has already been made of the havoc played by Pebrine in Europe in 1865, when M. Pasteur undertook the study of this formidable disease. The name Pebrine was given to it because of the prevalence of black spots on the skins of the diseased silkworms. Recent experiments, however, have proved that this is by no means the only characteristic feature of the disease. In the vast majority of cases, it has been observed that the infection is acquired by eating food spoiled with the excretions of the silkworms or contaminated by Pebrine spores. It has also been demonstrated that disease-free seed could very easily be produced if only pains to carefully look after the worms during the rearing period are taken. The disease is hereditary and the germs are transferred by the female moths to their eggs. These germs, of course, lie dormant till the eggs hatch. The microbes develop in the body of the worms, which do not show any signs of decay till the disease is far advanced.

The most characteristic feature of Pebrine is the presence in the different parts of the worm's body of minute oval bodies, which are believed to be really the spores of the parasite which cause the disease. The worms affected by the disease begin to grow, but when the germs gain their full power, say in 30 days' time or more, they kill the worms. There is no possible cure for this disease, but the system called the "control system". Besides good and careful rearing it is very important to take recourse to disinfectants, such as a solution of formalin and choloxide fumigation from time to time. It has further been recognised by experts that the long intervals between the rearing periods of the univoltine breeds make Pebrine more or less impossible, and Kashmir, of course, rears only the univoltine breeds, and this is a great factor in favour of Kashmir seed reproduction. In any case, Kashmir is not immune from Pebrine yet.

In 1835, Bassi, a learned Italian scientist, after whom the disease is also known as Bassianite disease, discovered its cause. It usually appears between the third and the fourth moult,

and sometimes in the chrysalis stage as well. The initial cause is an excess of warm humid weather; minute mushrooms spread on the silkworms, and also on the mulberry leaves in white stains. When the parasite gets sufficiently developed, the blood circulation of the silkworm is at once stopped. The onset of the disease is, as a rule, very rapid, and little warning, so to say, is given until one finds dead worms in the litter. The worm ceases to move and rapidly dies. The symptoms of the disease are, therefore, very difficult to mark. When the worm dies of Muscardine, its body becomes stiff and covered with a white crust as it were, so that it looks like a piece of chalk. The appearance of the dead insects is so patent to the naked eye that no microscopic examination is necessary. The only remedy is to remove and burn the dead worms instantaneously, and to spray the whole rearing apparatus and so forth with formalin, and, in its absence, to use a strong sulphuric fumigation. The disease is believed to be transmitted by the spores which are formed on the body of the dead worm in the caterpillar stage. The spores are said to remain alive for long periods, and, in order that these may cause germination, it is not always necessary for them to be eaten by the silkworms. Muscardine is a disease which depends more or less on weather conditions. So far there have not been serious results of Muscardine in Kashmir. The Muscardine germs can be carried by the wind, and even by the hands and clothes of the rearers. The spores look globular under the microscope like those of Pebrine. The latter, however, are brighter and larger in size.

Grasserie has long been known to sericulturists and accounts of it are to be found in the writings of early sericulturists. It is not an infectious disease nor a hereditary one, nor is it caused by any special microbes. It can certainly be prevented by scientific rearing. It is usually caused by the careless rearing and, its corollaries, uneven feeding and so forth. Defective ventilation, dampness in the room, wet leaves are also responsible for the outbreak of this disease. The worms affected by this disease are "restless, bloated and yellow in colour," and their body becomes fat. The skin is shiny and can easily be torn. The disease is of very little importance in Kashmir. It

is probably due to some "metabolic disturbance" of the worm, and hence it is classified with Flaucherie.

Reeling of the cocoons at the Silk Factory is done in five filatures containing 1,520 reeling and 760 cooking basins, the former being heated by electricity and the latter by steam. The turning of the reels is done by electric power. After silk has been reeled, the skeins are twisted into hanks and packed in bales. Half the quantity of seed (20,000 oz.) is imported from Europe. For local production, selected cocoons are kept for seed. They are strung up till the moth emerges, when it is caught and placed in a muslin bag to lay its eggs. The dead moths are examined under microscope to see that they are free from disease. When the examining of the bags has been finished, they are washed in a solution of sulphate of copper, after which the seed is detached from the muslin bags, packed into $1\frac{1}{2}$ oz. boxes and placed in the hybernating houses to await the following distribution season.

The State has made proper arrangements for the preservation and expansion of the plantation of mulberry trees. Considerable attention is paid to their pruning in order to save them from disease.

Silkworm eggs are issued to the zamindars shortly before they are likely to hatch. The quantity issued at present is over 40,000 oz. The number of worm-rearers registered is about half a lakh but probably one and half lakh men, women and children are directly engaged in this work. The time from hatching to spinning of the cocoons is 30 to 35 days. The cocoons are brought to the Silk Factory at Srinagar and the rearers are paid their dues after weighment. They receive, on an average, Rs. 10 each. They incur no expense, as the seed as well as the mulberry leaves are obtained free by them.

Sericulture has undoubtedly proved a boon to Kashmir, inasmuch as it is a source of livelihood to about 5,000 labourers daily at the Factory and employs an immense number of persons as silkworm rearers during the rearing season, for which they get a remuneration of over $2\frac{1}{2}$ and 5 lakhs of rupees per annum, respectively.

It may not be out of interest to know that in Italy artificial silk is manufactured out of timber imported from Norway and

Sweden. Wood is sliced, converted into pulp of the desired consistency and then chemically treated and silk is produced of any colour.

VI

LEATHER INDUSTRY

The imports of leather into the Jammu and Kashmir Provinces for the year 1923 were:

	<i>Quantities</i> <i>Maunds</i>	<i>Value</i> <i>Rs.</i>
Jammu	2,383	1,31,023
Kashmir	1,278	1,63,431
	<hr/> 3,661 <hr/>	<hr/> 2,94,454 <hr/>

The exports of hides and skins from the Jammu and Kashmir Provinces for 1923 were:

	<i>Quantities</i> <i>Maunds</i>	<i>Value</i> <i>Rs.</i>
Jammu	2,962	82,619
Kashmir	7,515	3,09,027
	<hr/> 10,477 <hr/>	<hr/> 3,91,646 <hr/>

It is under contemplation of the Durbar to start a tannery at Jammu under the State management. It will most surely be a paying concern, taking into consideration the immense quantities of leather imported annually.

In Kashmir, hides are prepared in the villages by the *vátals* and are then brought to Srinagar where they undergo a refining process. Skins are brought in raw. There are several tanneries at Srinagar where hides and skins are tanned by keeping them immersed in lime-water for eight to fifteen days. By doing this the hair gets removed and the hides and skins become soft. Then alum and salt pounded together are rubbed on them.

The roots of *roil* tree and the shell of pomegranates are ground into powder and then boiled. The juice extracted is kept in a pot and when it cools down the hides and skins are kept in it for two or three days. When they absorb the dye, they are taken out and dried. Then they are scraped and stretched and are ready as leather for being manufactured into different articles. A variety of leather goods in fairly large quantities are manufactured in Kashmir. They are saddlery, harness, portmanteaux, valises, *yakduns*, sandals, socks, boots, shoes, cushions for chairs and bags.

Fur skins are cured on a large scale. They are first kept immersed in water for one or two days until they become soft. They are scraped of fatty matter and scarf-skin with a scudding knife, and washed clean on both sides with soap. Then alum and Ladakh salt pounded together are rubbed on skin-side. After this, the furs are rubbed by pressing them under feet, and are beaten with a stick, so that the hairs open out. They are again scrapped on the skin-side until that side becomes white and soft. Then a plaster of barley flour, mixed with curd, is applied on the skin-side and the furs are dried in shade. Again they are rubbed by pressing with feet. After that they are well shaken up so that the plastering matter is thrown out. Then the hair is combed and dressed. The furs are then ready for sale.

These pelts are remarkable for lightness in weight, softness of texture, delicacy of shade and smoothness of over-hair. The fur is pliable, silky, curly, downy and barbed together.

The heads of game animals, with or without horns, and also birds with plumage are artistically stuffed and mounted by the furriers of Srinagar. The art of taxidermy is skilfully practised by them. The specimens can be seen properly arranged in the natural history section of the Srinagar Museum.

VII

EMBROIDERY

Embroidery in Kashmir is done in four styles (1) *Amlī*, (2) *Chikan* (minute satin stitch), (3) *Doori* (knot stitch) and

(4) Yarma.

The darn stitch used by Kashmiri embroiderers is perfect, with threads so completely blended that it is difficult to insert a pin between the stitches and the field texture. Drapings were formerly made in *pashmina* or silk most elaborately embroidered in artistic style.

The talent of Kashmiri embroiderers has now been turned into the direction of producing embroidered articles on drill, linen and cossi-silk, *pashmina* or wool. They are very effective and cheap and are now in great demand. Draping, tea cloth, counterpane, table-centre, doyley, tie, handkerchief, blouse, dresspiece, cape, etc., are made and are sold very rapidly. About 3,000 people are now engaged in this business. This modern adaptation is to be highly commended and there is a great future for this branch of industry, provided it does not overstep the bounds of artistic forms and the patterns do not run riot, to which unfortunately there is now a tendency. The modern patterns are (1) Shawl, (2) Chenar leaf, (3) Iris, (4) Dragon, and (5) Lhasa, in place of old conventional designs.

Applique embroideries, sometimes outlined artistically in vivid thread wool worked in chain stitch, are used in making decorative floor coverings and curtains by patching up pieces of variously coloured *pattoo* or linen cloth. The whole blends beautifully. This article is known as *gubba* and is manufactured best at Anantnag.

Doori work or braiding embroidery is done on shawls and chogas in various designs, giving a beautiful knotted appearance.

Namdas or felt rugs are embroidered in various patterns of bold floral design in different colours. The embroidery is of the chain stitch kind. Imported Yarkand Namdas are embroidered in Kashmir. These fetch more price as the material is more durable.

VIII

WOOLLEN AND COTTON TEXTILES

1. *Pattoo*: This homespun cloth, chiefly woven by villagers,

is well-known. It is made from sheep's wool. The best *pattoo* is made at Zaingir, a place called after Zain-ul-ábidin. It may be plain or in different patterns, striped and checked, in imitation of Scotch tweeds. This latter kind is now made chiefly at Pattan. The *pattoo* sold to European visitors is usually old and worn blanket or *looi*, rubbed and washed. Such *pattoos* are softer and of thinner texture.

2. *Soot pattoo*: These are of woollen warp and cotton woof and are made in various patterns. They are suitable for wear in the plains of India and are now in great demand. Similar mixed materials are also made with cotton and *pashm* or silk and *pashm*.

3. "*Raffle*": A name given to the fabric woven from the German imported wool on the Kashmiri loom. Owing to its cheapness it is displacing *pashmina*, and, being of firmer structure, is preferred to *soot pattoo*.

4. The *looi* or blanket made from Kashmiri wool is a very serviceable article. It is either *ekbari* (one width) or *dobari* (two breadths sewn together). The *khudrang* (natural colour) is considered to be the best. The value of *loois*, *pattoo*, etc., exported annually from Kashmir is estimated at about three lakhs of rupees.

5. The cotton cloth, used by villagers, is made on looms of a primitive pattern from Kashmiri cotton, wool or imported cotton, wool or yarn. It is printed or dyed in Srinagar. The value of imported cotton, twist and yarn is about one and a half lakh of rupees annually.

IX

WOOD WORK

All ancient Hindu buildings of Kashmir are of stone, but the mosques are of wood, and some of them, such as the Shah Hamdan and Makhdum Sahib of Srinagar, show great dexterity

in the carpenter's craft. Some good carving is seen in some houses and boats. The Kashmiri carpenter is a bad joiner but as a designer he excels. The following kinds of work are now done :

(1) *Pinjra* or lattice work. Various patterns are made on a geometric basis or floral design, and are very bold and effective. *Budlu* or *Káir* wood is used. The work is made of small laths so arranged as to form a pattern and held in position by well fitted pressure exerting one against another. Glue is seldom used. The best kind of *Pinjra* work is known by the Kashmiri names of *Posh Kandúr*, *Chahár Khána*, *Sádah Kandúr*, *Shash-tez*, *Shash Sitára*, *Shash-pahlu*, *Dwázdah-sar*, *Shekh-sar*, *Jáffari*, *Jahán Shlrin*, and *Tota Shash-tez*.

(2) *Khatamband* or panelling in various geometric designs applied to ceilings. Thin panels of pine wood are made into various geometrical forms and fitted together in grooves. These cheap and effective ceilings are sometimes sent to India and England. The best kinds of ceiling work are known as *Hazár Gardán*, *Band-i-Rúm*, *Hashtpahul*, *Chahárbakhsh*, *Moj*, *Hasht-Hazár*, *Bádám-Hazár*, *Sehbakhsh*, and *Dawázdah-Gird*.

(3) *Carving*: This commenced with deep carving in floral designs, but the modern patterns are realistic carving in bold relief of Chenar, Iris, water-lilies or radiate bullrushes, with a great deal of undercutting. One of the dominating ideas in this art is that life and change are continuous, like flow and ebb, growth and decay. This has its expression in rhythmic sequence of crests and hollows. The walnut is stained and carved in lotus flowers cut in section botanically or in the form of Iris, Chenar leaves and branches or bunches of grapes or pears standing half an inch over the surface, showing great skill though little art. The latest is the Lhasa pattern. Some people regret this change from conventional to realistic art. But of these Sir George Watt says, "Perhaps one of the most surprising features of the exhibition may be said to have been the avidity with which every bit of this modern Kashmir work was purchased."

At one time carved wood table, with copper or copper enamelled tray centre, was a great favourite. But now wooden screens, tables, picture frames, trays, cigar boxes, fire-screens and music-stools are in demand. Large orders are received from Mess Courts, Clubs and others for chairs with carved crests and monograms, also for large hall chairs.

Wood work was an ancient art among the Hindus, for we see mention of it in some of the Puranas which give detailed directions for felling trees at particular seasons when the sap is down, and for seasoning the wood afterwards, so as to prevent unequal contraction and cracks in drying.

The Kashmir wood work is falling into disrepute owing to the use of unseasoned wood. The manufactures are not capitalists and cannot invest their money in wood and wait till it is well seasoned. There is one way out of this difficulty and that is to artificially season wood by steam. The carpenters are very lazy. If you order a screen, it takes months to finish it. This also is checking the progress of this important art industry in Kashmir, and lastly fancy prices are charged. Another drawback is that articles are not well finished. On the back of a well worked table, perhaps a deal board from an old wine case will be found.

In the Museum at Srinagar there are samples of the best carved wood work with their prices per square foot, calculated by employing the best workmen to make them. To this, of course, should be added a commission for supervision, if orders are sent through agencies.

The gate and the frontage of the Kashmir Camp at the Delhi Durbar were made of carved work from Kashmir. It excited great admiration. These were offered by His Highness the late Mahārāja Pratāp Singh as a present to His Imperial Majesty the King-Emperor who graciously accepted them. It is a great compliment on the Kashmir Carving work and will, no doubt, give a great stimulus to the industry.

Dealing with the present-day Kashmiris one notices how, with the arts and the trade, which Kashmir had in olden days, the business-like and commercial qualities of the people have deteriorated. A shawl trade of 30 lakhs of rupees could not have been carried on with foreign countries, if the men were not

industrious, honest and business-like, but now in every department of art industry the workmen, as well as the employers, are not quite straight in their dealings both as regards the prices and the nature of articles produced. In spite of poverty there is laziness. An article which could be easily made in a fortnight will not be finished for months. Instructions, carefully given, will be ignored. The Kashmiri handicraftsmen are remarkable for their primitive methods and the smallness of the outfit. They are also singular in the conservative ideas and wish to do all things according to the fashion of the trade. Labour-saving devices are only looked upon as means of reducing employment. Individual ambition is very rare. The Kashmiri workmen will not teach others, and trade secrets are jealously guarded. There is no enterprise and there is a great natural distrust among trades people. An exhibition of arts in Kashmir is almost an impossibility for the traders jealously guard their designs and patterns and would not expose them to the view of other traders lest they may be copied. It is amusing to see how a trader will suddenly drop a sheet of cloth over his wares if another trader happens to come when he is showing them to a customer. Even most respectable dealers will run down their brethren of the same trade and appraise another man's goods at lower rates. For these reasons the agents, who buy for other people, find it very difficult to deal with Kashmiri traders and the trade suffers immensely. An Act for the registration of patents and designs is now a great necessity. The old Dagshawl exercised great control over designs. It is, indeed, hard if the result of a man's fruitful brain is robbed by another without his permission. A Design and Patents Act, and granting of certificate after assay will protect the trade and encourage art industries.

X

STONE WORK

The ruins of Martand testify to the ancient stone carving of Kashmir. Even in Mughal times the art was not lost as shown by the carvings in the pavilion and waterfalls of the Shalamar gardens. One of these carvings has given the *Bandiroom* pattern

worked on wood and metals. The modern stone work in Kashmir is lapidary work, such as engraving seals. Jade is imported from Yarkand and is cut for seals and pendants. A Jade sceptre, obtained as a trophy of the subjection of Leh, now in the Srinagar Museum, is a masterpiece of the lapidary's art and is priceless in value. Cornelian, Blood stone, Onyx, Liver stone, Moss stone, Lapislazuli, Rock-Crystal, etc., are also imported in small quantities through Ladákh and are made into buttons, beads, brooches, etc. But the articles now usually sold in Srinagar are either made at Delhi or made with stones and coloured glasses and imported from Europe. Snuff boxes and stamp boxes are made with coloured glasses and the shining buckles, often sold as rock-crystal buckles, are made with "paste diamonds" sold at Delhi at 6 pies each. A large quantity of Delhi jewellery such as rings, brooches, etc., made with four-carat gold and artificial coloured stones, is imported and they are sold as genuine Kashmir made articles and greedily bought by visitors.

True turquoise can be had at Ladákh, but false turquoise is largely used in Srinagar for making articles in brass, copper and silver with small chips of false turquoise compacted by a cement. These articles were until recently a great favourite, but are now rejected as they deserve to be. False turquoise is glass coloured, or sometimes a poorly coloured stone is coloured to give it a deeper shade. The artificial colour becomes lighter if the stone is rubbed between the fingers with a little oil butter.

The lapidaries of Srinagar are, however, very skilful, and the *Tográi* monograms, which they engrave on various kinds of stone, are excellently executed.

The Valley of Kashmir

There is a tradition that the Kashmir valley was, aeons untold ago, a vast mountain lake called Satisar and geologists attest to this. That volcanic action had some share either in the formation of the original lake or its subsequent desiccation, is most probable and is to be traced to the mountains around the Vale. The soil contains remains of fresh water fishes and fossil oysters—the black shells of the water-chestnut may be found in layers embedded in the earth at a height of 1,500 feet above the level of the Valley. These indicate a fluvial origin. Traces of beaches may also be seen on the sides of the mountains. The flat and uniformly even surface of the plateaus can only be attributed to their having been submerged for ages beneath the still calm waters of a deep vast lake.

The following saying among the Kashmiris alludes to the same fact:

*Társarah Mársarah Kaunsarah sum sarah
Sati phirih Satisar sat sarah.*

I remember Társar and Mársar to Kaunsar in one level,
I remember Satisar seven by seven times.¹

¹ About the theory that Kashmir valley was originally a lake see the Introduction.

According to the tradition the drainer of this lake was an ascetic named Kashyapa ; hence the reclaimed land was called Kashyap-pur or Kashyap-mar and latterly Káshmir or Kashmir. To Kashyapa may fitly be applied the term "Rock of Ages" and naught should go seriously wrong with the land over which his shadow broods.

The name of Kashmir also implies "land desiccated from water," from Sanskrit *Ka* water, *Shimira* to desiccate.

In Sanskrit Puránas, Kashmir is called Gerek (hill) nestled as it is in hills. In Chapter VIII of *Avanádikosha*, the meaning of the word Kashmir is given 'land, ruling in which is difficult'.

The ancient Greeks called it Kashpeiria, and in the classical literature Herodotus mentions it as Kaspatyros, and Hekataios calls it by the name of Kaspalyros or Kaspapyros. It is called Shie-mi in the narrative of To Yeng and Sung Yan (578 A.D.). Huien Tsiang, a Chinese traveller, who visited Kashmir in 631 A.D., calls it Kia-shi-mi-lo.

Kashmir has further been shortened into Kashir by the Kashmiris in their own tongue. The Tibetans call it Khachal (snowy mountain), and the Dards (the inhabitants of Gures, etc.) Kashrat.

The Valley of Kashmir is situated to the north of the Pir Punjál range and is of an irregular oval shape lying north-west and south-east. It is surrounded by lofty mountains, is about 84 miles long and 30 miles broad, and its area is about 4,500 square miles and its average height is 5,200 feet above the sea level. An irregular oval ring of mountains entirely surrounds and encloses this secluded region. Their ridges vary in height and also in appearance. On the southern side we find the portion of the range, known as the Pir Punjál, with peaks varying in height from 8,000 to 15,000 feet, the sides of which are covered with dense forests and their summits crowned in winter with pure and glistening snow. On the northern side the mountains are still higher, approaching in some cases even 18,000 feet, bare and rugged in appearance, their loftiest being covered with a perpetual snow cap. To all appearance, when surveyed from an eminence, the rocky walls of this enclosed valley appear to be unbroken and undivided. But such is not the case. There is one gap, and one only, in the rocky barrier. This is at the

north-west end, where the river Jhelum, after collecting the drainage waters of the hills that surround the Valley, flows out by a narrow opening near Báramulla and proceeds on its troubled course to become finally a deep and placid stream as one of the five great tributaries of the Indus in the Punjáb.

In latitude it corresponds with Pesháwar, Baghdád and Damascus in Asia ; with Fez in Morocco in Africa ; and with South Carolina in America.

The population of the Valley, including the Muzaffarábád district, is as below:²

Muhammadans	1,324,403		
Hindus	64,460		
Buddhists	3		
Sikhs	17,742		
Other Religionists	478		
	<hr/>		
TOTAL	1,407,086	{	Males 757,824
	<hr/>	{	Females 649,262

I

THE JHELUM AND ITS BRIDGES

The Valley is situated nearly in the centre of the Mahárája's territory. Its general direction is from north-west to south-east and is traversed by the river Jhelum which rises near Verinág at the south-east end of the Valley. From Verinág to Báramulla the river is 132 miles long, while by road the distance is only 85 miles. So sinuous is the river that some of its loops, three or four miles long, have necks which are less than a quarter of a mile across. This river is navigable from Khanabal to Báramulla, and is one of the principal beauties of the Valley, and no less

² Excluding the areas under illegal occupation of Pakistan and China, the population of the Valley in 1961 was:
 Muhammadans 1,793,300, Hindus 89,002, Buddhists 3,
 Sikhs 16,713, Other religionists 323.
 Total 1,899,338.

important a factor in the prosperity of the country which it so materially adorns. This sluggish river, on whose breast is borne the traffic of the land, gives the Valley the piquant beauty of a variant landscape.

The following is the list of bridges on the Jhelum river in Kashmir with the names of their builders:

<i>No.</i>	<i>Name of Bridge</i>	<i>Date of Erection</i>	<i>Name of Builder</i>	<i>Remarks</i>
1	Khanabal	—	—	Original builder's name unknown. The existing bridge was built by Mahārāja Pratáp Singh in 1894 A.D.
2	Bijbihára	1631 A.D.	Dará Shikoh	It was originally a little higher up.
3	Sangam	1910 A.D.	Mahārāja Pratáp Singh	—
4	Pudgámpura	—	Sultán Haider	Was destroyed by fire during the time of Chaks and was rebuilt by Mahārāja Pratáp Singh in 1921 A.D.
5	Pámpur	1635 A.D.	Sháh Jahán	—
6	Pánda Chhuk	1588 A.D.	Habba Khotan, wife of Yusuf Chak.	Was swept away by flood a long time ago and was never rebuilt.

<i>No.</i>	<i>Name of Bridge</i>	<i>Date of Erection</i>	<i>Name of Builder</i>	<i>Remarks</i>
7	Amira Kadal	1773 A.D.	Amir Khán Jawánsheer	Became insecure by floods in 1893 A.D., was therefore pulled down in 1895 and rebuilt and opened for traffic on 14th May, 1896.
8	Haba Kadal	1550 A.D.	Habib Sháh	—
9	Fateh Kadal	1499 A.D.	Fateh Sháh	—
10	Zaina Kadal	1426 A.D.	Zain-ul-ábidin	--
11	Ali Kadal	1417 A.D.	Ali Sháh, brother of Zain-ul-ábidin.	—
12	Nau Kadal	1666 A.D.	Nurdin Khán	—
13	Safá Kadal	1670 A.D.	Saifdin Khán	—
14	Sumbal	—	—	Original builder's name unknown.
15	Hajin	—	—	Original builder's name unknown. Was swept away by floods long ago and was never rebuilt.
16	Sopur	1460 A.D.	Zain-ul-ābidin	—

<i>No.</i>	<i>Name of Bridge</i>	<i>Date of Erection</i>	<i>Name of Builder</i>	<i>Remarks</i>
17	Naurozpur	1479 A.D.	Sultán Hasan	Destroyed by Mukhtár-ud-Daula when at war with Abdullah Khán in 1807 A.D.
18	Báramulla	—	Atá Muham-mad Khán	Was originally at some distance below the present site of the bridge and was removed to the present site by Atá Muham-mad Khán. Original builder's name unknown.
19	Domel	1888 A.D.	H.H. Mahá-rája Pratáp Singh	Was swept away in the floods of 1893 A.D. and was rebuilt in 1903.
20	Kohala	1895 A.D.	Do.	Was originally built in 1871 at some distance below the present site of the bridge and was swept away by the floods of 1893.

II

LAKES

There are beautiful lakes in the Valley which yield plentiful fish, *singhara* (water-nuts), lotus-roots (*nadur*), etc., and on which are floating gardens producing water melons, musk melons, pumpkins, cucumbers and other vegetables. Geese, duck, teal and other game birds are also to be found in thousands in them. It is a sight never to be forgotten to see these lakes in the autumn when bright lotus flowers are waving over the surface of the lakes in the resplendent beauty of their full bloom. These lakes are: Dal, Wular, Anchár, Mánasbal near Sumbal, Társar, Hákursar (six miles from Srinagar on the Báramulla road), Khushálsar (near Zadibal) and Pambasar (near Naidkhai below Shadipur).

In normal years the Wular lake is 12·90 miles in length and 6·07 miles in breadth ; the Mánasbal lake 2·40 miles long and 0·47 mile broad; and the Dal lake 3·87 miles in length and 2·15 miles in breadth.

III

FLOATING GARDENS

Floating gardens are formed in the following manner:

The roots of aquatic plants growing in the shallow water are cut about two feet under the water, so that they completely lose all connection with the bottom of the lake, but retain their former situation in respect to one another. When thus detached from the soil, they are pressed into somewhat closer contact, and formed into beds of about two yards in width and of an indefinite length. The heads of the sedges, reeds and other plants of the flow are now cut off and laid upon its surface and covered with a thin coat of mud, which at first intercepted in its descent, gradually sinks into the mass of matted roots. The bed floats, but is kept in its place by a stake of willow driven through it at each end which admits of its rising and falling in accommodation to the rise and fall of water.

These floating gardens are sometimes stolen by taking out their stakes and floating them away. Hence it is said, among the curiosities of Kashmir, that land here is liable to be stolen.

The lotus is very common on all the lakes; in fact the leaves are so numerous that in some places they form a veritable green carpet, over which innumerable aquatic birds, as ducks and moor-hens, run securely to and fro. When in bloom, such places present a beautiful sight which Sir W.R. Lawrence describes in his book as follows:

“Lilies of various colours peep from amidst the verdant covering, the leaves forming which rest lightly and gracefully on the water, while the queen of all these species, the magnificent lotus, with its large leaf and tall and quivering stem, drooping under the weight of the exquisite and noble tulip-shaped pink and white flower, appears in the midst of this floating garden like a reigning beauty, bowing with modest, yet dignified grace, at the homage and admiration of her gaily-bedecked, but less favoured, rivals.” Numerous other plants are to be found on the lakes as well as several varieties of reeds and rushes of which matting is made. The willows that lean over the lakes peer at the flashing boat in mute surprise. May be, a squall may spring up and make the waters dance. But brief will be that hour and repose cometh again. And when the moon shines like a frozen flame in speckless sky, the waters seem to be decked in robes of stars, streaked with the rays of the moon.

IV

AGRICULTURAL PRODUCE

The land on both sides of the Jhelum is flat. It is alluvial and very fertile. Rice is extensively grown. Oil seeds, Indian-corn, wheat and barley are also cultivated. Vegetables are plentiful. All English vegetables can be well grown. The chief trees are cedars, pines, and spruces in the forests and planes, poplars, willows in the Valley; while fruit trees, apple, pear, peach, cherry, mulberry, walnut, almond, etc., abound. French apple and pear trees have been introduced and they yield delicious fruits.

The fruits are mostly exported and they send back sinews of prosperity to the State.

V

VALLEYS AND MEADOWS

In the eastern hills there are small valleys, namely, Noubuk, Trál, Dachhigám, Wángat, Arin and Lolab. They are beautiful verdant glens, idylls, dells and dales, abounding with bears and other wild animals. The scenery in them is charming, the ground being park-like carpeted with rich grass and sufficiently interspersed with streams and patches of forest—exceedingly picturesque and delightful spots for the lovers of Nature.

Between the flat land and mountains are sloping hills, in which are situated delightful meadows called *Margs* which Nature has provided with numerous flowers in endless variety of form, colour and species. They are also rich in insect life, more particularly in butterflies. The names of these Margs are:

Gulmarg

Used to be called Gaurimarg or meadow of Gauri, wife of Shiva. From 1581 A.D. Yusuf Sháh, a king of Kashmir of the Chak dynasty, who used to visit the place during the hot season, changed its name into Gulmarg (flowery meadow). The Mughal Emperor Jahángir, is said to have once collected as many as 21 different kinds of flowers here. Gulmarg is incomparably superior to any other hill station, with the possible exception of Ootacamund. Indeed, the scenery of Gulmarg compares favourably with that of the loveliest regions of Switzerland and the Tyrol. Towering above is the mountain of Apharvat, whilst the pano-

rama of the mountains towards Nanga Parbat is magnificent. A moonlit Gulmarg is a glorious sight, the mist rising in the early hours of the morning giving the Marg the appearance of a mystic lake, and filling the soul with poetical ideas and inspirations, especially when seen after a pleasant evening spent among hospitable friends when the wanderer wends his way home at peace with the whole world.

Tangamarg below Gulmarg.

Tangamarg near Ahrabal waterfall in the Kulagám tehsil.

Khelanmarg above Gulmarg.

Tilwánmarg near Gulmarg.

Sonamarg in Lár.

Vishnasarmarg in the mountains of Lár.

Kánamarg near Zojila.

Nágamarg on a hill to the north of the Wular lake.

Mohandmarg in Lár.

Mahálishmarg

Gungabalmarg

Sálanmarg

} On the top of the Bharut mountain in Lár.

Minimarg

Between Gures and Burzil.

Vijimarg

On the Vijbál mountain in Khuiháma.

Bangasmarg

On the way to Karnáh.

Tosamarg or Tosa-
maidán

On the way to Punch.

Nunamarg

In the mountains above Khulnárawáw.

Kashunamarg, Za-
jamarg, Musamarg
Ráinyúr

In the mountains of Devasar.

In the Hápatkhud mountain above Shupyan.

Nandamarg

Near Báníhal.

Fámarmarg

Near Wárwan.

Marganmarg

Badmarg	In the Dachhinpura mountains called Aru and Mandlin.
Zabamarg	Near Badmarg.
Astánmarg (12100 ft.)	Between the Sásakat mountain and Pahalgám.

Visitors spend the hottest part of the summer at these Margs, specially at Gulmarg.

VI

PLATEAUS

Lower down are extensive tablelands or plateaus which are called *Karewahs* or *Wudars*. They are of alluvial or lacustrine material, often separated from one another by deep ravines, formed by the different water-courses in their passage from the mountains beyond to their destination, the river. The soil of these plateaus is rich, the richest being of Pámpur of which advantage has been taken through ages past for the cultivation of saffron. The plants, which are arranged in parterres, flower in October and the sight of these beautifully and delicately tinted purple flowers on moonlit nights is most delightful.

The plateaus are:

Mattan Kanilwan	} Anantnág tehsil.
Zainapur Bijbihára Bábápur	} Kulagám tehsil.
Naunagar Khámpur Dadiwudar Gosiwudar Pámpur Devapur	} Avantipura tehsil.

Dámodar	}	Pratápsinghpura tehsil.
Khushipura		
Hánjak		
Badgám		
Tsundapur		
Makahom		
Tserawudar		
Sikandarpura		

Kriri	}	Báramulla tehsil.
Ushkur		
Wágub		
Pattan		

Bandipur		Uttar Machhipura tehsil.
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Safápur	}	Srinagar tehsil.
Kraháma		
Wáiwudar		
Pándachh		

VII

SPRINGS

Kashmir abounds in springs of clear transparent water. The following is the list of important and well-known springs:

Verinág	}	Anantnág tehsil.
Vithavatur		
Vásaknág		
Pánzath-nág		
Lokabhavan		
Kokarnág in Brang		
Kother		
Achhabal		
Kárkotnág at Sáli		
Anantnág		
Khír Bhawáni		
Malaknág		
Mattan		
Gotamnág		

Khīr Bhawāni at Manẓgam	Kulagām tehsil.
Kapāla-Muchan or Digom near Shupyan	} Avantipura tehsil.
Moran	
Arpal	
Hāri	
Wuyan	
Zavur	
Zewan	
Nāganik at Khrew	} Shahr Khas tehsil.
Guft Ganga	
Chasma Shāhi	
Chāshma Sāhibi	
Vichārnāg at Naushahar	
Khīrbhavāni at Tulamul	
Nārān-nāg at Wāngat	
Utashah-nāg at Magām	
Said Ganga	} in Zainagir Uttar Machhipura tehsil.
Haranāg	
Anantnāg	
Shelādevi at Bāramulla	} Baramulla tehsil.
Sukhanāg	
Devapurnāg	
Sangi Safed	
Nilanāg near Nāgām	

VIII

SRINAGAR

The Capital of Kashmir is Srinagar founded by Pravarasena II who ruled from 79 to 139 A.D. It is situated almost in the centre of the Kashmir valley and stands for over three miles on both banks of the Jhelum spanned by seven³ bridges, which

3 One more bridge, the Zero bridge has been built-increasing the traditional seven bridges of Srinagar to eight. The new bridge spans the river at Munshi Bagh.

form the principal means of intercommunication between the two sides of the city. These bridges, except the Amira Kadal, have been built on stacks of logs on the cantilever principle. This city may well be called Asiatic Venice, intersected as it is by several canals, viz., Már (excavated by Zain-ul-ábidin, 1420-70 A.D.)⁴, Suntikul, Dúdganga, Kutakul and Sunarkul, all full of gay house-boats, Shikáras, and other boats which span on them their quiet careers. These water-courses ripple by day and twinkle by night. The height of the city above the sea-level is 5,250 feet. The number of its houses is 25,673, its area $9\frac{7}{8}$ square miles, and its population as follows:⁵

Muhammadans	110,935		
Hindus	30,004		
Sikhs	541		
Other Religionists	255		
	<hr/>		
Total	141,735	{ Males	76,604
	<hr/>	{ Females	65,131

The city wears a poor look, though the name Srinagar implies "the city of the goddess of wealth". Mahárāja Ranbirganj Bazar, originally built by Mahárāja Ranbir Singh, is the central mart of trade. The sanitation of the city is good; a supply of abundant pipe water is available day and night; conservancy is well looked after and vaccination operations are extensively performed. The palace and the roads and most of the houses have electric light. There are in the city 'the Mission Hospital,' 'the State Hospital,' 'the Diamond Jubilee Zenana Hospital' and

4 The Mar canal which had gone into disrepair and out of use for quite some time has been filled up and a road laid over it.

5 The population of Srinagar, according to the census of 1971, is:

Muslims	:	345,141
Hindus	:	52,172
Sikhs	:	5,576
Other Religions	:	524
		<hr/>
Total	:	403,413

'the Mission Zenana Hospital' : all doing good work.⁶ The Museum in the Lálmándi, the Hazúri Bágh, the Silk Factory and the Rája Sir Amar Singh Technical Institute⁷ are in the southern suburbs of the city. The Sháh Hamadán Mosque, Pathar Masjid and Jáma Masjid are notable places of Muhammadans within the city. The Mahárája Palace⁸ is on the left bank of the river below the 1st Bridge.

European visitors reside in the Shekh Bágh, Harisingh Bágh, Munshi Bágh, Rám Munshi Bágh, Sunwár, Samandar Bágh and Chenár Bágh. The Residency is at the Kothi Bágh.⁹ There is a very charming club outside the eastern gate of the Residency which, besides the reading room and billiard and card rooms, has a large ball room and an excellent library.

Beautiful villas have been built at Gupkár overlooking the Dal lake and at Sonawár. Most of the visitors live in house-boats, some of which are really moving palaces.

There are pretty gardens, laid out by the Mughal Emperors, round the Dal lake, namely, Shálamár, Nashát, Nasim, Nagin, and Chashma Sháhi.

There are two small hills near the city, one Shankráchárj nearly 1,000 feet above Srinagar, crowned by an ancient temple, and the other, Hari Parbat, 250 feet high with a fort (built by Ata Muhammad Khán, a Pathán Governor, in 1812 A.D.) on its crest. A wall was built by Akbar the Great, in 1586 A.D., around the latter hill at a cost of eleven millions of rupees. It is about three miles long and 28 feet in height.

6 The Mission Hospital founded and run by the Church Mission Society, has been handed over to the State government and is now known as the Chest Diseases hospital. The State hospital is named 100-bed hospital. The Diamond Jubilee Zenana hospital was shifted to the State hospital at Karan Nagar and its building now houses a women's college. The Mission hospital at Rainawari is now under the management of the State Medical Department.

7 Now Amar Singh College.

8 The palace now houses the Legislative Assembly and part of the government secretariate.

9 With the attainment of Independence the office of the Resident in Kashmir came to an end. The Resident building now houses the Kashmir Art Emporium.

Natural Calamities

I

FIRES

Earthquakes and floods have rendered it necessary to use timber largely in the construction of houses in Kashmir, but cold drives the people to make free use of the *kángri* with live charcoals, and these have combined to make the houses peculiarly liable to fire. The Durbár have organised a Fire Brigade in Srinagar since 1894 which, assisted by the waterworks which have got so much pressure as to discharge water on the top of the highest house in the city, has greatly minimised the chances of fire. Subjoined is the list of great fires that occurred from time to time in the Srinagar town:

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
958-72 A.D.	Abhimanyu	The ancient city of Srinagar, founded by Ashoka at Puránadishthána or Pándrenthan, was destroyed.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1322 A.D.	Sahadeva	Zulqadr Khán <i>alias</i> Dulchu with 60,000 troops invaded Kashmir, and with ruthless rigour that comes of political panic, this barbarous invader pillaged and plundered and set fire to the whole city of Srinagar, rendering thousands homeless.
1493 A.D.	Sultán Muhanmad Sháh and Sultán Fateh Sháh	These two rivals were at war with each other at Srinagar and each, dead to the thought that he was inflicting misery on the poor innocent people, set fire to the city, simply for this that he might have the consolation that his opponent would find it a waste if he ultimately succeeded to take it.
1479 A.D.	Sultán Hasan Sháh	The portion of the city from Sikandarpura to Aláuddin-pura with 10,000 houses, among which were the Jáma Masjid and Sháh Hamadán mosque, were destroyed.
1619 A.D.	Diláwar Khán	Fire occurred at Sikandarpura, destroying 11,000 houses as far as Rājver Kadal and Saráf Kadal. The Jáma Masjid, which had been rebuilt, was again reduced to ashes.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1674 A.D.	If tikhár Khán	Fire, which broke out at Káwdára, destroyed the portion of the city from there to the Jáma Masjid, reducing 12,000 houses to ashes. The Jáma Masjid, which had been rebuilt by Jahángir, was for the third time destroyed by fire.
1710 A.D.	Nawázish Khán	20 Mohallas from Saráf Kadal to Malchimar were destroyed.
1737 A.D.	Abul Barkát Khán	Abul Barkát Khán was at war with his officials. Each party set fire to the city, which resulted in the destruction of 20,000 houses. That they thus inflicted untold misery on the poor innocent people never crossed their hard hearts.
1739 A.D.	Ati Ulláh Khán <i>alias</i> Ináyat Ulláh Khán	Fakhr-ud-Daula had been deputed by Nádir Sháh as governor of Kashmir in place of Ati Ulláh Khán, but the latter, supported by his councillors, went to oppose him, destroying 15,000 houses of the city and suburbs with the malicious object that if he was defeated he would have one consolation that his successor would find the city in a ruined condition.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1744 A.D.	Abul Barkát Khán	Khakhas, Bambas and Kishtwáris made a raid on Kashmir and plundered the people, burning 15 mohallas of the city of Srinagar.
1744 A.D.	Afrásiáb Khán	There was famine and the hungry people, headed by K. Alá-ud-din Naqshbandi <i>alias</i> Khwája Mirza and Háji Attiq Ulláh Qádiri, mobbed the corn dealers at Zaina Kadal, set fire to 10 or 12 mohallas and plundered them.
1782 A.D.	Azád Khán	An extensive fire occurred at Tankipura, from which burning pieces of birch bark rising in the air flew across the river and fell on thatched houses at Ahlamar, Haba Kadal and Sadi Qázizád, producing fresh conflagrations there in which 8,000 houses were destroyed.
1800 A.D.	Abdulláh Khán	Fire occurred at Saráf Kadal, destroying several mohallas.
1850 A.D.	Mahárája Guláb Singh.	About 2,000 houses were destroyed, from Tankipura to Zaindár Sháh Mohalla.
1875 A.D.	Mahárája Ranbir Singh.	Again at Tankipura fire broke out which destroyed 700 houses.
1878 A.D.	Do.	1,000 houses from Haba Kadal to Sadi Qázizád were reduced to ashes.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1892 A.D.	Mahárāja Pratáp Singh.	Fire occurred at Haba Kadal which extended down to Fateh Kadal and also across the river, destroying 1,343 houses and rendering 7,552 persons homeless.
1899 A.D.	Do.	Mahárāja Ranbirganj Bazar, the centre of trade in Srinagar, was destroyed and immense loss of property occurred.

II

EARTHQUAKES

Earthquakes are frequent. There is a dormant volcano in Uttar Machhipura. The following is the list of severe earthquakes that are known to have occurred in Kashmir:

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
2082-2041 B.C.	Sundar Sena	One night a destructive earthquake occurred by which the earth in the middle of the city of Sandimatnagar was rift and water gushed out in a flood and submerged the

Year	In whose time	Extent of damages caused
1500 A.D.	Sultán Fateh Sháh	<p>whole city. This submerged city forms the bed of the Wular lake.</p> <p>An earthquake occurred at night which destroyed many houses and many people perished. The shocks continued for three months.</p>
1552 A.D.	Ismáil Sháh	<p>This visitation of the earthquake was very severe. Many fissures occurred. Several springs became dry and new springs flowing with water were produced. In the Advin Parganah near Nandamarg there are two villages called Hasanpura and Husainpura and here the stream between the two villages changed its course and hence the land of the one changed place with the other, that is to say, a portion of the land of Hasanpura went into that of Husainpura and <i>vice versa</i>. At Máwar in Uttar Machhipura a mass of rocks rolled down the adjoining hill burying 600 people to death. The shocks continued for two months.</p>
1662 A.D.	Ibráhim Khán	<p>The earthquake on this occasion was severe. Many houses were destroyed and many people perished. The shocks continued for a long period.</p>
1668 A.D.	Saif Khan	<p>Constant shocks of earthquake occurred one day from evening to next morning but no loss of life was caused.</p>

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1735 A.D.	Dildiler Khán	A severe shock of earthquake occurred which threw down thousands of houses and its shocks continued for three months.
1778 A.D.	Karimdád Khán	Countless houses were razed to the ground. The shocks continued for one year during which the people were living out of their houses.
1784 A.D.	Azád Khán	Loss of life was immense. The shocks continued for about three months.
1803 A.D.	Abdullah Khán	Many houses were destroyed amongst which was the spire of the Sháh Hamdán Mosque
26 June 1827 A.D.	Diwán Kripá Rám	The earthquake destroyed countless houses and many people were buried to death underneath them. The spire of the Sháh Hamdán Mosque, which had been re-erected, tumbled down again. The shocks continued for nine months.
1863 A.D.	Mahárája Ranbir Singh	The earthquake occurred in the close hours of the morning. Fissures were produced in different places in Kruhen and Bángil, but no loss of life occurred. The shocks continued for three months.
1878 A.D.	Do.	16 houses together with their mates were buried down into a chasm caused by the earthquake at Kundabal village near Mánasbal.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
30th May 1884 A.D. at 3 A.M.	Mahárāja Ranbir Singh	A fissure, 700 feet long, 300 feet broad and 70 feet deep, occurred at Laridur in Kruhen in which six houses with all their inmates disappeared. Over 10,000 houses were destroyed, 3,390 human lives and 40,000 cattle were lost. The shocks continued for 2½ months. The Mahárāja distributed Rs. 30,000 among the sufferers for rebuilding their houses and remitted two lakhs of rupees in the land revenue of the Zamin-dárs who had suffered from the catastrophe.

III

FLOODS

Though one is charmed to view from a point of vantage the beautiful glittering circle of lofty snow-capped mountains in Kashmir and to watch the glorious sunset transmute their snowy crests to a golden rose, he, if acquainted with the country, turns with a shudder remembering what catastrophe this snow causes to the Valley after a heavy rainfall in summer, when the warm rain water brings down with itself enormous quantities of melted snow and floods the Valley, doing injury to life and limb and destroying crops and other property. The State has, however, started protective works against floods. In 1904 a spill channel was excavated which takes a large portion of flood water from the Jhelum above Srinagar through a swamp rejoining the river at some distance below the city, and this has proved of much benefit in protecting Srinagar from floods. Dredging works have since 1907 been started from Báramulla up to the Wular lake which are worked by electric power and they have minimised

the chances of floods in the Valley and besides have reclaimed many swamps for agriculture. Appended is a list of great floods that occurred from time to time in Kashmir:

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
2092-2041 B.C.	Sundar Sena	A destructive earthquake occurred by which the earth in the middle of the city of Sandimatnagar was rift and water gushed out in a flood and soon submerged the whole city. By the same earthquake a knoll of the hill at Baramulla near Khádanyár tumbled down which choked the outlet of the river Jhelum and consequently the water rose high at once and drowned the whole city together with its king and the inhabitants. This submerged city is now the site occupied by the Wular Lake.
855-83 A.D.	Avantivarman	Famine was caused by flood and then steps were taken to deepen the Jhelum near Khadanyar in order to accelerate the flow of the river. This measure had the effect of minimising the chances of flood.
917-18 A.D.	Pārtha	Rice crop was destroyed by flood, the result being a great famine.
1122 A.D.	Harsha	Crops were swept away.
1379 A.D.	Sultan Sháháb-ud-Din	10,000 houses were destroyed

<i>Year</i>	<i>In whose time</i>	<i>Extent of damage caused</i>
1573 A.D.	Ali Khán Chak	Many houses and crops were swept away.
1662 A.D.	Ibráhim Khán	Many houses were destroyed
1730 A.D.	Nawázish Khán	Many houses and crops were destroyed.
1735 A.D.	Dildiler Khán	Thousands of houses were destroyed.
1746 A.D.	Afrásiab Khán	10,000 houses and all the bridges on the Jhelum and also the crops were swept away.
1770 A.D.	Amir Khán Jawánsheer	All the bridges and many houses were destroyed.
1787 A.D.	Juma Khán	Fearful loss of property occurred. The Dal Gate gave way and all the eastern portion of the city of Srinagar was submerged.
1787 A.D.	Abdullah Khán	Crops were destroyed.
1836 A.D.	Col. Mián Singh	The bridges at Khanabal, Bijbihára, Pámpor and Amira Kadal were swept away.
1841 A.D.	Shekh Gulám Mohi-ud-din	Rain fell for seven days continually, and as a consequence the Jhelum overflowed the Dal Bund and submerged the whole of Khányár and Raináwári. Six bridges from Fateh Kadal to Sumbal were swept away.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused.</i>
21st July 1893 A.D.	Mahárāja Pratáp Singh	It rained incessantly for 59 hours and the river became so swollen that miles of land on both banks were flooded. The water rose to the height of R. L. 5197.0. All the bridges, except Amira Kadal, and many houses were destroyed. Loss of cattle and crops was immense and many people were drowned.
24th July 1903 A.D.	Do.	Five inches of rain fell between 11th and 17th July and eight inches from 21st to 23rd idem and the river rose to the maximum of R. L. 5200.37 on the 24th July at 2 P.M. The whole Valley became one vast expanse of water and fearful loss of life and property and crops occurred. The damages caused to roads and other Public Works alone rose to over three lakhs of rupees.

IV

FAMINES

Kashmir has suffered terribly from famines. Owing to its isolated position it is very difficult to obtain grains from other States in India and a failure of crops results in a prolonged famine. The whole Valley is practically independent of rain. A fairly hard winter, storing a sufficiency of snow on the mountain tops

so that the gradual thaw through the summer keeps the irrigation canals constantly brimming, is all that is wanted to ensure an abundant harvest. Every great famine that occurred in Kashmir was caused, not by summer drought, but by a too mild winter or by heavy rains in harvest season which destroyed the crops. The following is a list of famines which visited the country from time to time:

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
150-114 B.C.	Tunjina I	Once snow fell in the month of August which destroyed all rice crops, causing a widespread famine. The king gave all the money he had in his treasury for the relief of the distressed. It is said that a couple of roasted pigeons fell down from the sky to each individual every morning and thus the people were able to make war with the hunger-wolf, continuing so until the famine was over.
853-883 A.D.	Awantivarman	There was a great famine due to destruction of crops by floods. A <i>kharwār</i> of unhusked rice used to sell at 1,050 <i>Dinārs</i> .
917-18 A.D.	Pārtha	Famine occurred owing to the crops having been destroyed by flood. A <i>kharwār</i> of grains sold at as much as 1,000 <i>Dinārs</i> . People perished of starvation by thousands.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1122 A.D.	Harsha	The crops were swept away by flood and in consequence famine occurred. A <i>kharwár</i> of rice sold at 500 <i>Dinárs</i> .
1355 A.D.	Aláud Din	Untimely rains spoiled the crops which caused famine in which many people perished.
1466 A.D.	Zain-ul-ábidin	The crops were spoiled by excessive rains resulting in famine. The king took active measures for the relief of the famine-stricken.
1531 A.D.	Muhammad Sháh	Sayed Khán, ruler of Káshgar, had sent troops to invade Kashmir. The whole of winter passed in warfare and peace was concluded in the month of July. Owing to the skirmishes the land could not be cultivated and famine was the result which lasted two years and many people perished of starvation.
1575 A.D.	Ali Sháh Chak	Snow fell in the month of September which destroyed the rice crops and famine was the result which lasted three years.
1603 A.D.	Ali Akbar	Famine occurred on account of untimely rains. Akbar, the Great, sent grains from the Punjáb, but they were not sufficient and many

Years	In whose time	Extent of damages caused
		people perished of starvation. The famine lasted two years.
1646 A.D.	Tarbiat Khán	The autumn crops were spoiled causing a famine. Sháh Jáhán sent large quantities of grains from Gujrát, Multán and Lahore to be distributed among the famine-stricken.
1685 A.D.	Hifzullah Khán	The crops were spoiled by rains and famine occurred.
1723 A.D.	Azam Khán	Owing to excessive rains the crops were destroyed. A <i>kharwár</i> of <i>sháli</i> used to sell at Rs. 8. The famine lasted two years.
1731 A.D.	Ihtirám Khán	The autumn crops could not ripen on account of rains and it resulted in famine.
1745 A.D.	Afrásiáb Khán	The people had been reduced to the depth of distress owing to plunders by Bam-bas. They could not attend to sowings in the spring. Excessive rains in the spring also prevented them from cultivation. The result was a famine lasting seven months after which new crops were harvested. Two <i>sers</i> of rice used to sell for one rupee.
1755 A.D.	Sukha Jewan	The famine occurred owing to excessive rains which spoiled the crops. Khwája

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
		<p>Abul Hasan Bānde, who was in charge of the Revenue Department, distributed the grains that were in store among the people in proportion to each family's requirements. One lakh <i>kharwārs</i> of grains were distributed among the Zamindārs as "Taccāvi advance" on condition that it would be recovered from them next year. The advance remained unrecovered, but one <i>trak</i> per <i>kharwār</i> or one anna per rupee was recovered yearly from the Zamindārs by way of interest till 1833 A.D., and as in this way the advance had been recovered five times over it was totally remitted.</p>
1765 A.D.	Nurdin Khán	The famine raged for six months owing to damage to the crops by excessive rains.
1813 A.D.	Azim Khán	The famine was caused owing to the crops not having ripened. A <i>kharwār</i> of <i>shali</i> sold at Rs. 16 <i>khām</i> . The famine lasted about two years and scarcity for about six years.
1832 A.D.	Sher Singh	Mahārāja Ranjit Singh started from Lahore to visit Kashmir. He deputed Jamádār Khushál Singh and Shekh Ghulam Mohi-ud-Din to collect supplies

Year	In whose time	Extent of damages caused
		<p>for his camp. They executed the orders with such rigour that the result was scarcity all over the State. Ranjit Singh, however, came to know of this scarcity and returned from Punch to Lahore. Then in the month of October when <i>shāli</i> had not yet been harvested there occurred a heavy snowfall which destroyed the crops. The consequence was a very severe famine. Even two sers of rice could not be had for one rupee. In 1833 A.D. Col. Mián Singh came to Kashmir as Governor. One evening he witnessed from a balcony of the Sher Gadhi Palace that there was "not a single lamp lit in the city and heard no cock crowing in the morning, all fowls having been eaten up by the famine-stricken. This produced a distressing effect upon his mind, and he, with great endeavours, obtained a quantity of grains from the Punjáb and made the Zamindárs sow them. He also got fowls from the Punjáb and started their breed afresh. Some crops were produced and next year the famine disappeared.</p>

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1864 A.D.	Mahārāja Ranbir Singh	<p>The harvest was scanty, and during the following spring there was scarcity, though there was plenty of corn in store in State godowns. Mahārāja Ranbir Singh deputed Dewán Kripa Ram to make necessary arrangements. The Dewán reached Srinagar in June and found 60,000 <i>kharwárs</i> in the godowns. He caused this quantity to be sold freely in the bazar and thus relieved the tension of the situation. The Mahārāja sent large quantities of grains from the Punjáb and had it sold in Kashmir at cheaper rates than they had actually cost. One lakh of rupees worth grains were distributed among the poor. Dewán Kripá Rám distributed 60,000 <i>kharwárs</i> of <i>sháli</i> at once in the month of October giving one <i>kharwar</i> to each family, and the famine disappeared.</p>
1877 A.D.	Mahārāja Ranbir Singh	<p>In autumn, when the <i>sháli</i> crops were still unharvested, rain fell continually for two and half months, destroying all the crops. Up to next spring there was no sign of famine as the grains in store were being sold to the people. After this there were no grains for seeds left and consequently no fresh cul-</p>

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
		tivation could be done. The famine then began to rage severely. Even three sers of rice were not available for one rupee. Two-thirds of the population died of starvation. Mahārāja Ranbir Singh, out of his characteristic generosity, got 195,714 maunds of grains transported from the Punjab for the relief of the famine-stricken. This direful calamity lasted two and half years.

V

EPIDEMICS

The Happy Valley, so much sung in both prose and poetry for its natural beauty, was until lately notorious for filth. The dirt everywhere was an unendurable strain on eye and attention. Its capital, Srinagar, could be compared to another place beginning with h——— not heaven, to be sure. Latrine, public or private, there was none, and never a broom touched a public lane. Dr. W. Wakefield wrote in his book "The Happy Valley," published in 1879 A.D.—"Instead of a people that one would expect to find the cleanest of the cleanly, a short glance at their visible condition suffices to inform the spectator that he sees before him human beings, fashioned in the image of their Creator, but, alas ! for their manners and customs, veritably the dirtiest of the dirty." In describing the insanitary condition of Srinagar, Dr. Mitra in his book "Medical and Surgical Practice in Kashmir," published in 1889, wrote as follows: "The great elevation of the Valley and its favourable bracing cold climate prevent those bad results which would otherwise have manifested themselves under such insanitary conditions, but the condi-

tions favourable for the growth and spread of zymotic and preventible diseases are here ; the town is a fit nidus for the development of disease germs—a most combustible fuel is there as it were, and a slight spark will ignite the whole and produce a disastrous conflagration.” Again—“The scene of death and desolation during the summer of 1888 was one that will not soon pass away from living memory.... After two months the epidemic (of cholera) gradually began to decrease, and everybody began to feel safer, and thought that a new lease of life had been given. But, alas ! peace has not yet come to those who understand how cholera came, how it revelled and feasted with every imaginable insanitary condition around it, how easy it is for it to come again, and how wide open the gates of this city are to welcome its dire visitors.” Dr. A. Neve in his “Kashmir Mission Report for 1888” wrote: “The wonder is, not that cholera came, but that it ever went away ; not that it slew 10,000 victims, but that so many escaped its ravages.” Again—“Enough that cholera came and will come again, aye, and again, as long as it is thus prepared for, and invited and feasted by, a city reared on filth, a people born in filth, living in filth and drinking filth.”

So epidemics of cholera or other preventible diseases used to come and, after killing thousands, die their natural death and then come again, but no attempt was made to prevent their recurrence. After the cholera epidemic of 1892 the authorities—thanks to strenuous and ceaseless endeavours of Dr. Mitra, the then Chief Medical Officer of Kashmir and President of the Srinagar Municipality—took vigorous measures to sanitise the city of Srinagar and also the other Mofussil towns. An abundant supply of pure transparent pine-water was brought into Srinagar ; roads were widened and paved or metalled ; latrines built ; and arrangements for cleaning the lanes made. Since then cholera appeared five or six times, but prevailed in a mild form, and seizures in Srinagar were very little compared with the figures of previous epidemics.

Vaccination has been introduced since 1894, and, needless to say, it has been a great boon conferred on humanity. Formerly small-pox played great havoc among children decimating the population, but now a death from this disease is a rare occurrence.

A scheme for protecting the springs all over the State from

contamination is under consideration of the Durbar, and when this is carried out, the State will become much less liable to the scourge of epidemic diseases.¹

I give below a statement showing epidemics that devastated the Valley from time to time :

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1089-1101 A.D.	Harsha	An epidemic of plague occurred.
1604 A.D.	Ahmad Beg Khán	An epidemic of cholera lasted 40 days with such virulence that it staggered humanity. The number of the dead was so immense that they could not be buried or cremated and, therefore, had to be thrown into the river.
1783 A.D.	Azád Khán	Thousands of people died of cholera in the city of Srinagar, but the Mofussils enjoyed complete immunity from the disease.
1819 A.D.	Diwán Moti Rám	Thousands of people fell victims to cholera.
1827 A.D.	Diwán Kripá Rám	An epidemic of cholera prevailed for one month during which thousands of people perished.

1 There has been no cholera epidemic in the State from 1930, thanks to the provision of clean drinking water to most of the towns and villages and mass anti-cholera inoculation whenever there was an apprehension of an epidemic. Small-pox has been eradicated altogether. Medical aid is lavishly provided; the *per capita* expenditure on health has increased from 47 paisa in 1947 to Rs. 10.75 in 1971-72. There are over 40 hospitals with 1,100 beds in all. Besides there are 450 dispensaries and health centres in the State. There are over a thousand doctors, *Valds* and *Unani hakims*. The average life expectancy has risen from 32 years in 1947 to 52 years in 1971-72.

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1845 A.D.	Shekh Gulám Mohi-ud-Din	An epidemic of cholera raged for three months with such severity that cloth for shrouds became so scarce that the dead had to be disposed of naked or covered with grass.
1857-58 A.D.	Mahárāja Ranbir Singh	Cholera raged to December and January and then ceased, but reappeared after three months and prevailed for two months more.
1867 A.D.	Do.	Cholera prevailed for four months and killed thousands of people.
1872 A.D.	Do.	An epidemic of cholera commenced from August and lasted four months, killing thousands of people.
1875-1876 A.D.	Do.	Cholera lasted 13 months from 29th December 1875 to January 1876, during which thousands died.
1879 A.D.	Do.	Cholera prevailed for 40 days and many people died.
1888 A.D.	Mahárāja Pratáp Singh	It was a very virulent epidemic of cholera, about 10,000 human lives being destroyed within two months.
1892 A.D.	Do.	This epidemic of cholera was more severe than that of 1888. There were 16,845 seizures and 11,712 deaths, out of which 9,041 cases

<i>Year</i>	<i>In whose time</i>	<i>Extent of damages caused</i>
1900-02 A.D.	Mahārāja Pratáp Singh	and 5,781 deaths occurred at Srinagar. It raged for four months from May to August. 19,265 cases and 10,811 deaths from cholera occurred, out of which 2,439 cases and 1,293 deaths were at Srinagar, the epidemic lasting 18 months from August 1900 to January 1902.
1903-04 A.D.	Do.	This was an epidemic of plague which prevailed from 19th November 1903 to 11th July 1904, killing 1,379 persons in Mofussils and 56 in Srinagar.
1906-07 A.D.	Do.	Cholera prevailed from 13th November 1906 to 31st January 1907, during which 1,626 persons out of 2,629 cases died, 194 deaths occurring in Srinagar.
1910 A.D.	Do.	Cholera prevailed for five and a half months from 4th June to 17th November, during which 18,448 cases occurred and 9,211 lives were lost, 2,239 cases and 1,018 deaths occurring in Srinagar.

The above statement proves, beyond all doubt, that so long as Kashmir enjoyed its isolated position, it was immune from cholera, but as communications with the Punjáb increased, the number of invasions of the disease also increased. It further proves that cholera germs cannot germinate in the Kashmir

climate, but as the insanitary conditions prevailing in the State are very bad, the germs, on obtaining by chance an admission, thrive, grow and multiply for a limited period, until they die a natural death. Distance being no longer a safeguard against the influx of the disease, the remedy, in which alone the State's safety now lies, is none but improved sanitation.

Places of Interest

I

PHENOMENA IN KASHMIR

There are many places and things in Kashmir which are peculiar in themselves and some of them quite beyond ordinary human comprehension. The orthodox Hindus taking them as Divine manifestations worship them, while others consider that they are merely Nature's phenomena. Some of these I have visited and seen myself, and in regard to others which I have not been able to visit, I have ascertained facts from different reliable persons who have actually been to the places and seen the things for themselves. Anything I could not give credence to in regard to places mentioned below, has been omitted by me. There are other places about which wonderful stories are told, but I have omitted them also, as I was not able to visit them myself, nor any trustworthy person could corroborate to me the stories told of them. I give the information I have collected with the object that it may draw the attention of some scientist who may explain these freaks of Nature.

1. Amar Nath

The celebrated cave of Amar Náth, situated in a long glacial

gorge high among the eastern mountains, is visited by thousands of Hindu pilgrims from Kashmir and different parts of India on the full-moon day of the month of Sáwan (July-August) every year. It contains a self-formed Linga (the emblem of Shiva) of ice, which, waxes and wanes with the moon. The cave is 91 miles, divided into eight stages, from Srinagar, viz., Avantipur, Anantnág, Mattan, Pahalgám, Chandanwári, Wáwjan, Panchatarani and Amar Náth; the last four stages being in mountainous regions destitute of human beings, where there are no trees to afford shelter and where for firewood juniper has to be used.

This pilgrimage is mentioned in book I,—267 of the *Rajatarangini* in the accounts of King Nara who reigned in 1048—1008 B.C., which proves that even before the time of Kalhana, the author of the book, who lived in the beginning of the twelfth century of Christian era, it was annually visited by pilgrims.

On the 11th day of the bright fortnight of Sáwan all pilgrims gather at Pahalgám and on the 12th march in a big caravan—a canvas town, bazar and all, springing up at each stage, reminding one of a long past age when the Rishis migrated in a host to Kashmir to practice austere penances, and of the fact that through all the centuries as now religion has been the overmastering passion of the Hindu race. It is for the sake of common safety that the pilgrims travel together in a compact body, as it is not unoften that in these cold bleak mountains, even in August, snow-storms occur in which hundreds of people perish. Those who perish are generally the Sádhus having little or no cloth to cover their bodies and no canvas or cloth sheet to pitch up for taking shelter in. The State has been issuing rations according to the following scale to such mendicants who come from India since the time of Mahárāja Guláb Singh, so long as they sojourn in Kashmir preparatory to performing the pilgrimage:

Cash payment on the day of the Sádhu's

name being registered

. . . 1 rupee

Daily ration	. . 1 ser rice
Daily cash payment	. . 3 pies
For <i>charas</i> for the whole season	. . 6 annas

When they start from Pahalgám, they are given each 3 sers of rice and 6 annas more in cash for *charas*, etc., for the days to be occupied by the journey. After this nothing is given by the State, as the Sádhus are supposed to leave the State after performing the pilgrimage. The Sádhus, who have got families with them, are given for the whole season for each adult member of the family : *At Srinagar*: Cash 10 annas, Rice 8 sers. *At Phahalgām* : Cash 4 annas, Rice 3 sers.

Mahárāja Pratáb Singh performed this pilgrimage thrice and saw with his own eyes what privations the pilgrims were suffering. Twenty-five years ago a mountain road was constructed from Pahalgam to Amar Náth. An excellent motor road has lately been opened right up to Pahalgám, a total distance of some sixty miles from Srinagar. The táhsildar of the Anantnág táhsil, one magistrate, one medical officer and a band of policemen are deputed in charge of the pilgrim camp, and these officers do all in their power to render aid to the pilgrims. In spite of these arrangements, the toll of mortality was appalling whenever inclement weather prevailed. Now the State has conferred the greatest boon on the pilgrims by the construction of sheds at the stages. Five sheds costing Rs. 30,000 have been built at Pahalgám and the same number at Chandanwári, four at Wáwjan and four at Panchatarani, each shed being 30 ft. by 15 ft. in dimensions.

The pilgrims bathe at the following places:

Ganpatyár, Shurahyár, Shivapura, Pándrenthan, Sidhayár, Bárus, Jaubrári, Mithawan, Avantipura, Hári, Gyūru, Vágahom, Chakadhar, Divakiyár, Harishchandra, Thajiwára, Siraháma, Badur, Sri Gufawára, Sakhras, Salar, Kothus, Khelan, Ganesh-bal, Mámleshwar, Braghu Tirtha, Rám-kund, Sitá-kund, Lachhman-kund, Hanumán-kund, Nila Ganga, Chandanwári, Shisha-

ram Nág, Wáwjan, Panchatarani, Amrávati, Sangam, Naudal.¹

There is another route to Amar Náth *viā* Báltal, which is nearer by two stages, being only 71 miles from Srinagar and very much easier. Up to Báltal the road (59 miles) has already been constructed and is always kept in good condition, it being the highway to Ladákh and Central Asia. From Baltal to Amar Náth there is a distance of only 12 miles and out of this a road for three miles from Sangam to Amar Náth is already in existence. So there remain only nine miles from Báltal to Sangam which have got no road. There is a glacier on these nine miles over which people travel, but it is rendered impassable when the ice bridges melt in July. There are no engineering difficulties in the construction of the road, the hills on either side of the glacier having a gentle slope and very little jungle cutting being necessary to complete it. If this road is constructed, pilgrims will be for only one day in barren and dangerous regions, as up to Báltal there are shady *kail* trees to afford shelter and fuel—the two greatest necessities of life here—and up to the village Nilagrár, six miles this side of Sonamarg, people inhabit permanently everywhere.

Tradition says that when the capital of Kashmir was at Sandimatnagar, which now forms the bed of the Wular lake, pilgrims to Amar Náth used to go by this way. So if this small piece of road from Báltal to Sangam is constructed, it will be the conferment of an inestimable boon to pilgrims as well as excursionists who would like to visit the pilgrimage before July.²

The following interesting account of the pilgrimage to Amar Náth has been culled from the *Life of Swami Vivekananda*:

- 1 These were the prescribed places at which to have a bath and the practice is being followed by a small number of *sadhus* accompanying the *charri* or holy mace of Lord Shiva. The pilgrims, however, assemble at Pahalgam travelling there by cars and buses. The trek on foot begins from Pahalgam, there being no road fit for vehicular traffic beyond that stage to the holy cave.
- 2 With the building of an excellent road from Srinagar to Baltal to which place pilgrims go by car, jeep or bus, this route to Amarnath is gaining popularity.

“The procession of several thousands of pilgrims to the far away Cave of Amar Náth, nestled in a glacial gorge of the Western Himalayas, through some of the most charming scenery in the world, is fascinating in the extreme. It strikes one with wonderment to observe the quiet and orderly way in which a canvas town springs up in some valley with incredible rapidity at each halting-place with its tents of various colours and of all shapes and sizes, with its bazars, and broad streets running through the middle, and all vanishing as quickly at the break of dawn, when the whole army of gay pilgrims are on the march once more for the day. Then again, the glow of countless cooking-fires, the ashen-clad Sádhus under the canopy of their large *geru* umbrellas pitched in the ground, sitting and discussing or meditating before their *dhunis*, the Sanyasins of all orders in their various garbs, the men and women with children from all parts of the country in their characteristic costumes, and their devout faces, the torches shimmering at night-fall, the blowing of conch-shells and horns, the singing of hymns and prayers in chorus,—all these and many other romantic sights and experiences of a pilgrimage, which can be met with nowhere else outside of India, are the most impressive, and convey, to some extent, an idea of the overmastering passion of the race for religion. Of the psychological aspect and significance of such pilgrimages, done on foot for days and days, much could be written. Suffice it to say, that it is one of those ancient institutions which have, above all, kept the fire of spirituality burning in the hearts of the people. One sees here the very soul of the Hindu nation laid bare in all its innate beauty and sweetness of faith and devotion.

“Passing Bawan, noted for its holy springs, and Eishmuqám, and Ganeshbal, the pilgrims reached Pahalgám, the village of the shepherds, and encamped at the foot of an arrow-shaped ravine beside the roaring torrents of the Lidar. Here they made a halt for a day to observe the *Ekádashi* fast. Coming near Chandanwára, the next stage, they had to do on foot the first glacier, which proved to be a tremendous climb of several thousand feet. Extremely exhausted with making another steep climb, and finally scrambling up and down along irregular goat-paths at the edge of precipitous slopes they pitched their tents at

a place amongst the snowpeaks, at an altitude of 18,000 feet, much higher than the glacier itself. The whole of the following morning was a steady climb over the Pish-Bal hill till at last the source of the Lidar, Shishram Nág, lay five hundred feet below, hushed in its icy cradle. Next day, crossing frost-bound peaks and glaciers over the Maha Gunas mountain the procession came down to Panchatarani, the place of the five streams. In each of these the pilgrims were required to make ablutions passing from one stream to another in wet clothes, in spite of the intense cold.

"On the 2nd of August, the day of Amar Náth itself, the pilgrims, after making a steep climb over the Rattan Pantsál and Bhairau Bál mountains and then a precipitous descent down the deep valley (after passing through the narrow hole of the Gharba Yátra on the razor-backed ridge), in which one false step would mean instant death, reached a flowing stream (Amrávati). In this they had to bathe and smear their bodies with clay-marl from bed before entering the sacred precincts of the Cave after another stiff ascent. They then reached the great Cave, in a very passion of the Shiva consciousness, the whole frame of many shaking with emotion. The Cave itself was 'large enough to hold a cathedral, and the great Ice-Shiva, in a niche of deepest shadow, seemed as if throned on its own base'. Then their bodies purified and whitened with the chalky silt, their face aflame with supreme devotion to Shiva, they entered the shrine itself, nude, except for a loin-cloth; and kneeling in adoration they bowed low before the Lord. The awesome majesty of the whole atmosphere with the song of praise from a hundred throats resounding in the Cave, and the shining purity of the great Ice-Lingám, overpowered all.

"Here there was all worship. 'I can well imagine,' Swami Vivekananda has said after visiting the pilgrimage, 'how this cave was first discovered. A party of shepherds, one summer day, must have lost their flocks and wandered in here in search of them. What must have been their feeling as they found themselves unexpectedly before this unmelting Ice-Lingám, white like camphor, with the vault itself dripping offerings of water over it for centuries unseen of mortal eyes. Then when they came home they whispered to the other shepherds in the valleys how they

had suddenly come upon Mahadeva.'

"The journey down the mountain trails to Pahalgám was indeed as interesting as before. Amongst other sites the party passed the celebrated Lake of Death,³ into which, on one occasion, some forty pilgrims had been plunged by an avalanche, started, it is believed, by the volume of their song. The pilgrims shortened their journey to Astán-Marg by taking to a narrow sheep-track down the face of a steep cliff (Sásakat) and then proceeded to Pahalgám."

2. Tulamul in Lar

There is a spring at this village, the water of which changes colour every now and then. Sometimes it is pink, sometimes green, and so on. The Hindus worship here. A large fair is held each month on the 8th and 15th days of the bright fortnight, specially of Jeth (May-June).

3. At Takar in Uttar Machhipura there is a spring, the water of which, like the Tulamul spring, changes colour every now and then.

4. Trisandhya or Sunda-brari

This is the name of an intermittent spring to the south of the Divalgám village in Brang. It remains dry all the year round except in the months of Baisakh and Jeth (April-June). At first the water flows out from it continuously for some days as from an ordinary spring and then it does so at intervals, that is to say, the spring becomes quite void of water and then water reappears therein and flows out. This intermittance occurs several times in 24 hours, until in course of time the number of ebb and flow gradually dwindles down to none. A Persian poet has written the following couplet describing this spring:

1 Named Hatyari-talav. The Astanmarg route for the return journey has been discarded now and the pilgrims take the same route for the return journey as they come by.

*Turfa' aine hast dar Kashmir nāmash Sunda-brār
Amad-o-rafte 'ajab dārad ba roz-o-shab sih hāl.*

5. Rudra-Sandhya

This is also a spring like Trisandhya, dry during the whole year but flowing with water continuously for some days and then getting void of it at intervals during the months of Baisakh and Jeth (April-June). It is six miles from Verinág towards the west.

6. Vasuknag

This is a large spring, six miles further west from Rudra-Sandhya. It remains quite dry for six months of winter but flowing with water (which forms a big stream irrigating a large area) for six months of summer.

7. Pavana-Sandhya

There is a spring situated five miles to the east of Verinag which is called Pavana-Sandhya. It ebbs and flows continually as though it breathes *pavana* or air like a living creature, hence its name. A Persian poet describes it in the following couplet:

*Chishmae digar ba Kashmir ast nāmash Pavana-Sand
Hast har dam āmad-o-raftash chu anfāse rajāl.*

8. Sata Rishi

These are seven springs close to one another at Vithavatur near Verinág, which, like Vāsuknág, remain dry for six months of winter and flowing with water during summer months.

9. Spring at Halamatpura

At Halamatpura in Uttar Machhipura there are five springs near one another. A *lingā* of stone is in one of these springs, which is said to move by itself round it, making one move from one corner to the other in one month. Some people explain

this as below. The bed of the spring is sandy and its level varies with the action of water-oozing which makes one corner higher and the other lower alternately, and thus the *lingá* (which does not stand vertical but is lying in a horizontal position) in the bed of the spring rolls down slowly from the higher to the lower corner under the law of gravitation.

10. Tatadan

At Dubjan in Shupyan there is a spring called Tatadán, the water of which is warm. A similar spring exists at a place 68 miles from Anantnág across the Margan pass.

11. Kon-nag

In Brang there is a spring at the village Gagar-Tshunda ($10\frac{1}{2}$ miles from Anantnág towards Verinág) above Lárík-pura which is called Kon-nag by the Muhammadans and Sitá-kund by the Hindus. Some of the fish therein are blind in one eye.

12. Haramukh

In Lár is the lofty mountain called Haramukh. The popular notion is that a snake within sight of this mountain will not bite.

13. Dyaneshwar

There is a cave temple, called Dyáneshwar, on a hill 12 miles to the east of Bandipura above Simthan village in the Arin Nullah, in which there are stone udders of cow on its ceiling, from which water drops down below. It is reached through a narrow passage about a yard in diameter and two chains long. There is a self-formed *lingá* in it.

14. Bumzu

There is a cave at Bumzu to the north of Mattan, the length of which none has yet been able to find. Another similar cave

exists at Biru in which the famous ascetic and philosopher, Abhinavgupta, together with his 1,200 disciples is said to have entered and to have not returned.

15. Suyam

There is a place called Svayambhu, or Suyam, half a mile to the south-west of the village Nichihom in Machhipura, where after long periods, say once in 30 years, the earth gets heated for a year or so. The Hindus then go there on pilgrimage. Rice with water in pots, buried to neck into the earth, gets cooked by this heat, and the Hindus offer cakes of rice, thus cooked, in the name of their deceased relations. A flame is also produced by pouring down ghee and sugar and camphor in a hole dug into the earth about a foot deep. This is evidently a volcanic phenomenon.

16. Priyag

There is a tiny little island in the midst of the Jhelum at Priyág on the junction of the Sindh with the Jhelum, on which is a small Chenar which does not either grow taller or shorter or bigger, though ages have passed since when it is there.

17. Thermal Spring

At the Wuyan village (Ular), $11\frac{3}{4}$ miles to the south-east of Srinagar, there is a spring, bathing in which has the effect of curing itch. There is a similar spring at Anantnág called Malaknág and also at Sadarkutbal, 22 miles from Srinagar on the Bandipur Road. Medical men say that they are thermal springs containing iron and sulphurated hydrogen.

18. Tsuhar-nag

There is a spring on the top of the Sarbal mountain in Kothár which is called Tsuhar-nág. The water of it gushes out with great force, making whirls like the potter's wheel.

19. Haldar

There is a rock on the top of a hillock called Haldar, overlooking the Manasbal lake towards its north-east. It rises $1\frac{1}{2}$ miles above the shrine of Bábá Sáleh or $2\frac{1}{2}$ miles above the lake. The spot is called Mukhta pukhar and is situated near the village called Ingura to the north of the Lár Kul Nullah. The ascent to it is over the plateau called Ranin. From underneath this rock a little water is oozing out. Every year on the Nirjala Ekádashi day a fair is held here. The pilgrims sing in chorus:

Balabhadra Hāldaro palah talah poni trāv,

[O Balabhadra Haldara (Krishna's elder brother) allow water to flow out from under this rock !]

Then suddenly water flows out in a large volume from underneath of this rock which suffices for the bathing of the pilgrims assembled.

At this spot there was a stone image of cow from whose four udders water used to come out in drops. It is said that about one hundred years ago this image was removed by the Zamindárs of the neighbouring villages and buried somewhere under the rocky earth nearby.

20. Koh-kah Pal

At Yáripura village, five miles to the north of Kulagám, a thick roundish, somewhat flat-surfaced boulder, not exceeding one maund in weight, is lifted by 11 Muhammadan priests standing in a circle round it, each holding it upon his right-hand index finger while uttering the number 11.

II

ANCIENT MONUMENTS⁴

Ancient monuments of very great archeaological interest, which disclose the existence of a lost civilisation, are numerous in Kashmir. They were built to endure for all time. Their solidity of construction and their gigantic size strike one with wonder that puny man could have built them. Kings have come and gone, civilizations have bloomed and vanished since they were built. People go and pace around them and gaze on them with amazement. But the disintegrating hand of Time and vandalistic propensities of certain bigoted rulers, specially of Sikandar the Iconoclast (1389-1413 A.D.) have laid them to ruins. The climate of Kashmir is peculiarly destructive to them. Besides the chemical constituents of the atmosphere, namely, carbonic acid gas and oxygen, the frosted snow lying upon the stones (uncovered by any shelter) for nearly five months of winter, is ever slowly and silently smouldering them, so that some of them have become friable. The founders of these monuments were wise enough to use sculptured stones of very large dimensions, as smaller ones should have, under these adverse conditions, crumbled and vanished long ago. The State has made arrangements to conserve these relics of ancient glory. An official bearing the designation of Superintendent of Archaeological Department, has been appointed whose business it is to look after them and save them from decay. The following are those ancient edifices of which some traces are still to be found:

1. Temple at Bandi

The first ancient monument that a traveller comes across while on his way to Kashmir is the temple of green stones situated on the road at the 76th mile from Kohála. It is now in a ruinous condition. Its builder and the date of its building are unknown. Some think that it is a Buddhist monument, while others assert

4 For a detailed account of ancient monuments and Mughal gardens in Kashmir, see the author's "Archaeological Remains in Kashmir".

that it was a Hindu temple dedicated to the goddess Káli and built about 700 A.D.

2. Temple at Buniar

Next comes the temple at Buniár which is situated, like the above, on the road near the 85th mile from Kohála. It is in a most perfect condition in the Valley. The name of the builder of this temple and the date of its construction are not known. It is said it was built in the 5th century of the Christian era and was dedicated to goddess Bhávani.

3 Linga at Shiri

Near the 94th mile from Kohála there is a colossal *linga* carved with figures on all sides which stands about 12 feet high.

4. Temple at Fatehgarh

At the village Fatehgarh, $1\frac{1}{4}$ mile to the south of Shiri, stand the ruins of an ancient temple. Mahárāja Ranjit Singh had a fort built round it, using some of the stones of the ruined temple for the construction of its walls of defence. Some of the stones are very large, measuring about 11 feet in length, 4 feet in height and 3 feet in thickness. The name of the builder is unknown.

5. Narayan Thal

The temple at Naráyan Thal stands in a small tank on the right bank of the Jhelum, one mile from Báramulla on the old road to Muzaffárabád and about two and half miles to the south-west of the former place. It is situated at the foot of a hill in a hollow. Nothing is known about its old history.

6. Temple at Tapar

At the village Tápar twelve miles onward from Báramulla towards Srinagar, are the ruins of a temple called Narendreshvara, which was built by Narendraprabhá, queen of

Partápáditya II, who reigned in Kashmir from 634 to 684 A.D. It was ruined by Sikandar the Iconoclast. Zain-ul ábidin (1420-70 A.D.) used the stones in the construction of the bund from Náidkhai to Sopur.

7. Temple at Pattan

At Pattan, five miles further on from Tápar, are two large stone temples on the road-side. These, which bore the name of Shankara-Gaurisha and Sugandheshvara, were built by Shankara Varman, who reigned in Kashmir from 883 to 902 A.D., and his queen Sugandha. There is also a stone stupa here at the 19th mile from Srinagar.

8. Shankaracharya

The most conspicuous monument that draws the attention of a visitor on reaching Srinagar is the Shankaráchárya temple on the crest of the hill. It was originally built by Sandimán, who reigned in Kashmir from 2629-2564 B.C. It was repaired by King Gopáditya (426-365 B.C.) and by King Lalitáditya (697-734 A.D.). Sikandar did not break it. Zain-ul-abidin repaired its roof which had tumbled down by earthquake. Shekh Ghulam Mohi-ud-din, a Sikh Governor (1841-46 A.D.), also repaired its dome. There were steps of sculptured stones from the Jhelum river, leading right up to the top of the hill. With these stones, it is said, the Pathar Masjid in the city was built by Núr Jahán, queen of Jahángir. The Buddhists still regard this temple sacred and call it Pas-Pahar.

9. Narpirasthan

In the city of Srinagar, the first ancient edifice that one sees is the temple of Narendrasvámin (which was built by Lkhana-Naráindráditya, who reigned in Kashmir from 178 to 191 A.D.). It is about 100 yards from the right bank of the river between the 2nd and 3rd Bridges. It has been turned into a Ziarat and is called Narpirasthan.

10. Shah Hamadan Mosque

Going down by boat further on, one's attention is arrested by a large wooden building on the right bank between the 3rd and 4th Bridges which is called Sháh Hamadán. It is a Muhammadan shrine, built in memory of Sháh Hamadán, *alias* Mir Sayid Ali, a saint of Hamadán in Persia, who came to Kashmir in the reign of Sultán Qutb-ud-din (1373-89 A.D.) and practically established Islám in the country. Qutb-ud-din originally built it with the materials of a Hindu temple at this place which was called Káli-Shri and was dedicated to the goddess Káli by King Pravarasena II (79-139 A.D.). The Hindus worship Káli here on the river bank and say the spring of the goddess is inside the mosque. In 1395 A.D. Sikandar made an extension to this mosque.

In 1479 A.D. it was destroyed by fire and the king of the time, Sultán Hassan Sháh, rebuilt it. It was single-storeyed. During the reign of Sultán Muhammad Sháh, a Shia, named Mir Shamas Iraqi, arrived in Kashmir. He got a double storeyed Shia mosque built at Zadibal. Gházi Khán, Musa Raina and Káji Chak, who were the ministers of Sultán Muhammad Sháh, were converted by him to the Shia cult and, at his instance, they got the permission of the Sultán to pull down the Sháh Hamadán mosque, telling him deceptively that it did not look well as single-storeyed and that it would be made double-storeyed. The mosque was pulled down but its rebuilding was indefinitely postponed. Then after two years, Káji Chak's sister, named Saleh Máji, wife of Sultán Muhammad Sháh, rebuilt the mosque, selling her dowry to meet the expenditure. It cost her three thousand rupees and sixty thousand copper coins.

In 1731 A.D. the mosque got again burnt down and was reconstructed by Abul Barkat Khán, and is standing since then, being repaired from time to time.

11. Pathar Masjid

Just opposite the Sháh Hamadán mosque on the left bank of the river is a mosque built of polished stones which is called

Pathar masjid or Nau Masjid. It was constructed by Queen Núr Jahán, and it is said the stones of the stairs, which led up to the top of Shankarachárya hill, were used in building it. When it was completed, the Sunnis rejected it as a mosque, for the reason of its having been built by a woman of the Shia sect.

12. Maha Shri

Below the 4th Bridge on the right bank of the river is a five-domed temple called Maha Shri, which was built by King Pravarasena II. It has been turned into a graveyard. The wife of Sikandar was buried in its interior. Zain-ul-ábidin was buried outside the temple, hence the locality is since called Bad Sháh, which was the title of Zain-ul-ábidin.

13. Skanda-bhavana

At the 6th Bridge at some distance from the right bank of the river towards the north are the ruins of the temple of Skanda-bhavana, now called Khandabhavan, which was built by Skandagupta, minister of King Yudhishtira II (139-78 A.D.). It has been utilised as the Ziárat of Pir Muhammad Basur.

There are also the ruins of an ancient temple near the river bank at the 6th Bridge which was founded by Pravarasena II, and called Lauki Shri. The ghat of this temple is still called Lokhari-Yár, a corruption of Lauki-Shri-Yár.

14. Tribhavana-svamin

Passing further on below the 6th Bridge, there are on the left bank of the river the ruins of a stone temple called Tribhavana-svámín, which was built by Chandrapida, who reigned in Kashmir from 684 to 693 A.D. A Muhammadan saint, named Thaga Baba Sahib, is buried close to it and hence the place is now called Thage Baba Sahib.

15. Kshema-Gaurishvara

Passing on below the 7th Bridge at the confluence of the Dudganga river with the Jhelum, King Kshema-Gupta (950-58 A.D.) built a temple of Shiva, calling it after his own name Kshema-Gaurishvara. A number of sculptured stones of this temple, together with one bearing an inscription in Shāradā character, have been lately unearthed at this place.

16. Didda-Matha

Just opposite to the above place on the right bank of the Jhelum, Diddā, queen of Kshema-Gupta, built a Matha called Diddā Matha, and hence the whole ward of the city in which it was situated is even now called Didda-Mar. This Matha has been converted into the tomb of Malik Sāhib.

17. Ali Masjid

From Diddā Matha if one goes towards the north he has to cross a large plain *Aidgāh* used for mass prayer meetings by the Muhammadans, to reach a big mosque called Ali Masjid. It was originally built by Ali Shāh, brother of Zain-ul-ābidin, in 1397 A.D. It was destroyed by fire in 1800 A.D. and was then re-constructed by Gul Muhammad Khān, a big official of the time.

18. Vikrameshvara

About two miles further on towards the north near Vichārnāg, are the ruins of the temple of Vikrameshvara, built by Vikramāditya (521-63 A.D.). It was destroyed by Sikandar, who utilised its stones in the construction of a mosque and school nearby.

19. Amritabhavana

Passing half a mile further east, one reaches the ruins of the temples of Amritabhavana built by Amritaprabhā, queen of Megavāhana (22 B.C.—13 A.D.). The locality is now called Vāntabhavan.

20. There are other ruins of Hindu temples in different places between Srinagar and Vichárnág, which have been converted into Ziárats and burial-grounds and nothing is known about their antiquity.

21. Raneshvara

About two miles from Vichárnág towards the south, is the temple of Ráneshvara built by King Ranáditya (414-74 A.D.). It has been utilised as the Ziárat of Madin Sahib.

22. Vishnu Rana Svamin

Proceeding further on to the south, there is a very large Chak burial-ground containing many curious and ancient edifices. Here was the temple Vishnu Raná-svámin built by the queen of King Ranáditya.

23. Jama Masjid

About four minutes' walk towards the south-east is the famous Jáma Masjid or Bad Mashid, built originally by Sikandar in 1404 A.D. with the materials of a large stone temple constructed by King Tárápida (693-97 A.D.). The roof of the four surrounding cloisters of the building is supported by two rows of pillars, 372 in all, the smaller ones measuring above 21 feet in height, while the loftier ones under the domes and spires being more than double that height—producing a most imposing effect. The court-yard measures 254 × 234 feet. There are remains of several stone temples round this mosque, whose builders are not known.

The history of Jáma Masjid is of interest and it has passed through many vicissitudes. Thrice it was destroyed by fire and rebuilt : once in 1479 A.D., again in the days of Jahángir in 1619 A.D. and once more during the reign of Aurangzeb in 1674 A.D.; the present structure dating from the days of Aurangzeb. In the time of Sikhs it was closed for 23 years and was re-opened in 1841 A.D. by Ghulám Mohi-ud-din, one of the governors of Sikhs.

The site of the mosque is considered sacred by the Buddhists also, and even now men from Ladákh visit the Jáma Masjid and call it by its old name Tsitsung Tsublak Kang.

The Maharája gave Rs. 12,000 in September 1893 and again Rs. 40,000 in September 1912 for the repairs of this mosque.

24. Sadbhava-Shri

A few minutes' walk to the west of the great mosque near Kádi Kadal, there is the temple of Sadbháva-Shri, built by Pravarasena II, which has been utilised as the Ziárat of Pir Háji Muhammad. Sultán Qutb-ud-din was buried here.

25. Pravarisha

Turning now again towards the east beyond the Great Mosque, is the temple of Pravarisha, built by King Pravarasena II. It has been utilised as the Ziárat of Baháuddin Sáhib.

26. Ziarat of Akhun Mullah Shah

On the southern slope of the Hari Parbat hill, is the Ziárat of Akhun Mullah Sháh who was the spiritual leader of Emperor Shah Jahán and of his eldest son, Dára Shikuh. This building is now in ruins.

27. Ruined Mosque at Hassanabad

About half a mile further on towards the south-east near Náid-yár, there is a fine old ruined mosque built by the Muhammadians of the Shia sect in the time of Akbar. Colonel Mián Singh, a Sikh governor, demolished it and the blocks of limestone were carried away to form the ghat of Basant Bágh opposite the Shergadhi palace. This place was the scene of religious strife, bloodshed, fire and plunder, which occurred in 1874 A.D. between the Sunnis and Shiás.

28. Hazratbal

On the bank of the Dal lake, about two miles from Hassanabad, is the greatest shrine of the Muhammadans in Kashmir, called Hazratbal. In it is the sacred hair of the Prophet which is shown to the people on certain days in the year when large crowds of the Muhammadans congregate here. This holy relic was brought to Kashmir by Khwaja Nurdin from Bejapur in 1700 A.D.¹

29. Nasim Bagh

About half a mile further, on the border of the Dal lake, is the Nasim Bágh (Garden of Breezes), laid out by Emperor Sháh Jahán. It contains hundreds of magnificent shady Chenárs (1,200 had been originally planted) and is a most delightful camping-ground. A Persian poet has said

*Dar jahán chun ba hukm-i-Sháh-i-Jahán,
Dauhae tázah az na'im ámad,
Kard gulgasht-i-án chu Sháh-i-Jahan
Bulbul az shákha gul kal'im ámad;
Guft tárikha dauhae sháhi,
Az bihishte Adan Nasím ámad.*

When in this land by order of Sháh Jahán
A fresh garden came into existence out of magnificence.
When Sháh Jahán roamed therein
Bulbul spoke from a blossomed branch
Said the date of the royal garden
“ From the paradise of Eden breeze has come.”

The last line of the stanza gives the chronogram of the laying out of the garden, viz., 1045 Hijra (1635 A.D.).

30. Suna Lank

From Nasim Bágh one can see in the centre of the Dal lake a

¹ A magnificent white-marble mosque said to be an exact replica of Masjid Nabi at Medina built adjacent to the original mosque now enshrines the holy relic. It was placed therein on June 23, 1978.

small island called Suna Lank. Zain-ul-ábidin, who reigned in Kashmir from 1420 to 1470 A.D., built a three-storeyed cottage here which afterwards tumbled down by an earthquake. Jahángir and his beautiful and accomplished queen, Núr Jahán, who had the fine taste to select lovely spots throughout the Happy Valley where the Emperor's pleasure gardens are to be found, did not miss this beauty spot and they constructed a villa here in which they occasionally retired from the cares of the world. This villa fell in course of time into decadence. Then Amir Khán Jawán Sher, the founder of the Shergarhi, who was one of the Durani governors of Kashmir (1770-76 A.D.) and who was also a pleasure-loving man, rebuilt that villa and used to spend most of his time with a Dal Hánji wife in merry-making there. This structure, too, has since vanished.

31. Habbak

Half a mile from Nasim Bágh in its north is the garden at Habbak. It was laid out by Saif Khán, one of the Mughal governors of Kashmir (1665-68 A.D.), and it was called Saif-ábád after his name. He desired to make it excel the Nashát-bágh and Shálamár in beauty. He brought a stream of water from the Sindh Nullah to feed the fountains, grottos and cascades in this garden. But before the excavation of the stream was completed, he was summoned back to Delhi by his master, Aurangzeb. He had deferred planting groves of plane trees and cypresses therein, pending the coming of water by the excavated stream, but as he had suddenly to depart from Kashmir he could not plant them.

Mahárája Ranbir Singh started flour and rice pounding mills in this garden in 1870 A.D. which were worked by water power by jail prisoners. He also started a silk factory here. Since then it is called Raghunáthpura.

32. Shalamar

On the north-eastern corner of the Dal lake, is the celebrated Shálamár. According to a legend, Pravarasena II, the founder of the city of Srinagar, had built a villa on the edge of

the Dal lake in its north-eastern corner, calling it Shálamár, which, in Sanskrit, means "the abode of love". The king used to go often to visit a saint, named Sukarma-Svámi, living near Harwan, and took rest in this villa on his way to, and from, that place. In course of time this villa vanished, and then the village, that had sprung up in its neighbourhood, was called Shálamár after the name of the villa.

In 1619 A.D., the Mughal Emperor Jahángir laid out a garden at this village and called it "Farah-bakhsh" meaning "Delightful". A Persian poet gives the chronogram of the laying out of the garden, viz., 1031 Hijra in "Farhatgáh-i-Sháhi" in the following stanza:

*Chu shud árastah Bágha Farah-bakhsh
Ba hukme Hazrate Zille Iláhi
Shahansháhe shahán Sháhe Jahángir
Ki mashhúr ast az mah tá ba máhi
Paye tíarkha in gulzár-i-rihán
Khirad farmúd "Farhatgáh-i-Sháhi".*

When Farah-bakhsh Bágh was prepared
By order of the Shadow of God-
Jahángir, the Emperor,
Who is famous from the moon to the fish;
For the year of this flower garden
Wisdom suggested "the royal delightful resort".

In 1630 A.D., Zafar Khán, a Mughal governor of Kashmir, made an extension to this garden towards its north by order of Sháh Jahán. This new portion of the garden was called *Faiz-bakhsh* meaning "Bountiful". Khisáli, a Persian poet, has written:

*Chu bághe Faiz-bakhsh az hukm-i-sháhi
Abar bághe Iram gashtah mubáhi.
Farah-bakhsh az kamále iftikhárash
Chu gul bar farqa khud dádah qarárash.
Azin rá Kashmir fakhre jahán ast,
Ki dar wai gulshane Sháhe Jahán ast.*

Paye tárikh-a-sálash subhgáhe
Khírad guftá "masarrat-gáh-i-shahí".

When Faiz-bakhsh, by the imperial order
 Became the pride of the garden of Eden,
 Farah-bakhsh, with much pride,
 Placed it like a flower upon its head.
 Kashmir is the pride of the world, because
 Within it is the garden of Sháh Jahán.
 For its year one morning
 Intellect suggested "a royal pleasure resort".

The words "masarrat-gáh-i-sháhi" in the last line of the above stanza indicate the chronogram of the laying out of the garden, viz., 1042 Hijra (1632 A.D.).

The Shálamár is connected with the Dal lake by an artificial canal, twelve yards wide and about a mile long. On each side of this canal, there is a broad and green path, overshadowed by large trees, and, where it joins the lake, there are blocks of masonry on both sides, which indicate the site of an old gateway. There are also the remains of a stone embankment which formerly lined the canal throughout.

The Shálamár is 590 yards long and its width at the lower end is 207 yards, while that of the upper end is 267 yards. It is surrounded by a brick and stone wall about ten feet high and is arranged in four terraces lying one above another and of nearly equal dimensions. There is a line of tanks or reservoirs along the middle of the whole length of the garden and they are connected by a canal, 18 inches deep and from 9 to 14 yards wide. The tanks and the canal are lined with polished limestone, resembling black marble, and they are provided with fountains. The water is obtained from the Hárwan stream behind the garden; it enters into its upper end and flows down from each successive terrace in beautiful cascades into the reservoir below containing numerous fountains, and, after leaving the garden, it falls into the outer canal, by which it is conducted to the lake.

The uppermost or fourth terrace was the private portion of

the garden where the Eves created an Eden on earth in the palmy days of the Mughal Emperors. It contains in its centre a magnificent black stone pavilion which is raised upon a platform a little more than three feet high and 65 feet square. Its roof is sloping, about 20 feet high and supported on each side by a row of six elaborately carved black marble pillars which are of polygonal shape and fluted. It was used as a banqueting-hall, a favourite place for entertainments of various kinds.

When at night the fountains were playing and the canal and its cascades, the pavilion and the garden were lit up with various coloured lamps shedding their light upon the throng of gaudy and jewel-bedecked guests and causing reflection on the tanks and water-courses so as to appear like fiery lakes, the effect must have been exceedingly pretty. Frogs made of silver, strung on silver wire, were tied round the fringes of the ponds touching the water and, as they were made so ingeniously by some expert mechanic, the ebb and flow of the water, caused by the fall of the cascades and fountains, shook them and made them croak as if they were living. This article used to be buried secretly somewhere in the garden by the gardener after use on festive occasions. He never informed even his own family members of the spot where it was hidden, lest the matter might get known and the article be stolen for its valuable metal. This gardener died and, as his death was sudden, he could not divulge this secret to anyone. So the above article still remains buried unknown underneath the earth somewhere in the garden.

The pavillon is surrounded by a fine reservoir which is 52 yards square and about $3\frac{1}{2}$ feet deep. It is lined with stone and contains 140 large fountains. Upon each side of the terrace, built against the wall, there is also a lodge. These formed the private dwellings of the royal family. On the edge of each of the three lower terraces there is also a small pavilion which overlooks the fountains in the tank below. Each of these consists of two apartments on each side of the canal over which is a covered archway uniting the two, and that of the lowest is supported by sixteen black stone pillars which are fluted and of polygonal shape.

Bernier, who visited Kashmir with Aurangzeb, gives an

interesting account of this garden in his travels and says that the doors and pillars made of stone used in the garden were found in some of the idol temples demolished by Sháh Jahán and that it was impossible to estimate their value.

It was in this garden that the Emperor Jahángir enjoyed the intense delight of making up the quarrel with his Nur Mahal "the light of the Harem".

33. Gupta Ganga

1½ miles from the Shálamár gate to the south, is the famous spring of Gupta Ganga at which a fair is annually held on the Basákhi day. Immediately behind the tank is a ruined mound with its base formed of carved stone slabs of evident antiquity. It marks the site of a temple built by King Sandhimati, *alias* Aryaráj (69-22 B.C.).

34. Nashat Bagh

A few hundred yards from Gupta Ganga is the Nashát Bágh, or "the Pleasure Garden," which is situated two miles to the south of the Shálamár. It was laid out by Asaf Jáh, brother of Núr Jahán, queen of Jahángir. A Persian poet thus rapturously sings its praise:

*Chún Bágha Nashát shud shigufta
Az yásaman o rihán u gul há,
Khurshid-i-jahán u Asafe dahr
Gustard bisát u khurd mul há
Dar gosh-i-nasim guft sálash
Gulzár-i-nashát u 'aish-i-dil há.*

When Nashát Bágh was in blossom,
With fresh jasmine and other flowers,
Asaf—the sun of the world—Solomon's vazier of the
universe—

Spread the carpet and took liquors,
In the ear of breeze it said its year
"The garden of Nashát and the delight of hearts."

The last line of the above stanza gives 1044 Hijra (1634 A.D.) as the chronogram of the laying out of the garden.

In 1634 A.D., this garden was visited by Sháh Jahán. He found it far better in point of scenery than the Shálamár and spoke to Asaf Jáh thrice that it was a delightful garden, expecting that Asaf Jáh would tell him that it might be accepted by the Emperor as his own garden. But Asaf Jáh kept silent. This inwardly displeased the Emperor. The garden was, as it is now, supplied with water from the same stream which supplied the Shálamár, and the Emperor, in his anger, ordered that, as the watercourse belonged to the Shálamár only, no water should run to any other garden from it. This at once made the Nashát shorn of all its beauty.

Asaf Jáh, who was staying in the garden, felt very sad but, of course, could do nothing. One day, observing the desolate look the garden wore for want of water, he felt exceedingly grieved, and throwing himself on his back in a corner heaved up deep sighs, and in this melancholy mood went to sleep. A servant of his knowing the cause of the grief that weighed down upon him, went to the place where the stream was stopped and, removing the blockage, brought water to the Nashát. At once did the fountains begin to play and the cascades to make a pleasing sound, and this awakened up Asaf Jáh.

He enquired, in surprise, how the water had come and got much alarmed lest the Emperor might hear of this and get annoyed. His servant stood up before him and told him that, as he had seen him in sorrow for want of water in the garden, he could not bear it and, therefore, secretly went and removed the blockage from the stream. Asaf Jáh upbraided him for having done so and hastily got the stream closed again.

The news reached the ears of the Emperor and he summoned the man who had committed the offence. The poor man, trembling with fear, pleaded guilty and spoke, with folded hands, to the Emperor that he had done this because the sorrow of his master, caused for want of water in his garden, was unbearable to him, and that he would submit to any punishment the Imperial Majesty might award to him for the offence. Now everybody thought the man would be given a very severe punishment. but, to their surprise and delight, the Emperor admired the devotion

of this faithful servant and bestowed a *khilat* of honour upon him and, besides, gave his master, Asaf Jáh, a *sanad* granting him the right of drawing water from the Shálamár stream, for the Nashát Bágh.

The Nashát Bagh is 595 yards long and 360 yards wide and is surrounded by a stone and brick wall which, on the front side, is 13 feet high. It is arranged in ten terraces, the upper three of which are much higher than the others, being from 16 to 18 feet, one above the other. There is a line of tanks along the centre of the whole garden and they are connected by a canal about 13 feet wide and 8 inches deep. The tank and the canal are lined with polished stone containing numerous fountains, and a grassy path with stone steps traverses each side of the canal. The stream, which feeds it enters the garden at the upper end and flows down the successive terraces in cascades which are formed by inclined walls of masonry and are covered with stone slabs beautifully scalloped to vary the appearance of the water. Some of the cascades are very fine, being from 12 to 18 feet high.

There are two principal pavilions, one at the lower and the other at the upper end of the garden. The lower pavilion² is double-storeyed and built of wood and plaster upon a foundation of stones. Its lower floor is 59 feet long and 48 feet wide and enclosed on two sides by beautiful lattice windows made of wood. In the middle of it there is a reservoir about 14 feet square and 3 feet deep which is full of fountains.

The upper storey possesses a lofty corridor on its eastern and western sides. On its northern side there is an apartment, 25 feet long and 14½ feet wide, which is enclosed by lattice work and on the southern side there is also a similar but smaller apartment. An opening in the middle of the floor, about 27 feet square, commands a view of the fountains in the reservoir below. In front of this pavilion and upon the terrace below it, there is a very large reservoir filled with fountains.

The upper pavilion is situated upon the edge of the highest terrace and consists of a double-storeyed building on each side of the canal which is crossed by an archway uniting the two. The

2 This pavilion has been removed as it obstructed the view of the Dal lake from the garden.

lower storey of each building contains one room which is 26 feet long and 13 feet wide. The archway between them is supported on each side of the canal by a double row of wooden pillars painted red and green, and it is 43 feet long, 36 feet wide and about 40 feet high. On the terrace below this pavilion there is also a very fine reservoir which is 102 feet wide, 123 feet long and 3 feet deep and it contains 25 large fountains.

Giant plane trees (chenárs) shade the walks which are bordered by lines of cypresses and all around is soft green turf. Lofty crags rise for thousands of feet precipitously above the garden, forming an effective contrast to the gentle beauty of a white soft expanse of the lake and village-dotted plane in the opposite direction. The water runs through the garden for irrigation purposes, but, when picnics or pleasure parties are held, it is turned into the limestone channels and the fountains play, and, when the garden is lighted up by illumination in the evening, on festive occasions, the whole place looks like a Fairy Tale scene. The best time to spend in this lovely garden is morning when it is shady here and the lake far below is glittering with the light of the sun. The poet has truly said:

*Subha dar Bágha Nashát o shám dar Bágha Nasim,
Shálamár o lála-zár o sair-i-Kashmir ast u bas.*

Morning at the Nashát Bágh and evening at the Nasim
Bágh,
Shálamár, and tulip fields, – these are the places of excursion
in Kashmir and none else.

35. Chashma Shahi

Proceeding $2\frac{1}{3}$ miles from Nashát Bágh towards the south, one reaches the Chashma Sháhi spring, much esteemed for its pure, transparent and cold water. It is nearly a mile from the south-eastern margin of the Dal lake. There are three terraces in the small garden in which the spring is situated, also a central canal, tanks, waterfalls and fountains, all fed by the spring which is situated at the south end of the garden. This garden was laid out by Ali Mardán Khán by order of Sháh Jahán. The chronogram of the laying out of this garden, viz., 1042 Hijra

(1632 A.D.), is given in *Kausare Sháhi* in the following Persian stanza:

*Dosh dídam nishasta bar kausar
Sháhi Mardán Ali Jam jáhi.
Guftamash al salám, guft'alek,
Guft bar gú digar chih míkhwahi.
Guftamash bahr-i-chashma tárikhe.
Guft bar gúi "Kausare Sháhi".* •

Yesterday I saw sitting at the spring of paradise,
Sháh Mardán Ali of Jamshed's splendour.
He said "Say what do you want."
I told him "A date for the spring."
He said "Say Royal Spring."

From Chashma Sháhi is sighted a small island in the centre of the Dal (Kotwal) which is called Rupa Lank on which Sultán Hasan Sháh had built a cottage which was destroyed in the time of the Sikhs.

36. Pari Mahal

Pari Mahal (Fairies' Palace), also called Kúntilun, is an old ruin standing grandly on a spur of the Zebanwan mountain on the southern side of the Dal lake. It is about a mile from the margin of the lake and terraced up the hill side, the face of each terrace having deep arches. It was a school of astrology, built by Prince Dára Shikuh (Sháh Jahán's eldest son) for his tutor-Mulla Sháh, whose mosque is situated on the southern slope of the Hari Parbat hill.

37. Pandrenthan

On the road to Anantnág, the first ancient edifice that is met with is the old Hindu temple standing in the middle of a tank at Pándrenthan, $3\frac{3}{4}$ miles from Srinagar. It was erected during the reign of King Pártha (921-31 A.D.) by his prime minister, Meru, who dedicated it to Mahádeva under the title of Meru

Vardhana Svámin. The ground about it was then occupied by the original city of Srinagar, the modern name of Pándrenthan being a corruption of the Sanskrit Puránadhishtána (old capital). This old city was destroyed by fire in the reign of Abhimanyu about the year 960 A.D.

38. Mosque at Pantachhuk

About two miles further up is a wooden mosque. It was erected by Hubb Khotan, wife of Yusuf Chak who ruled in Kashmir in 1578-84 A.D. Hubb Khotan was a peasant woman but being very handsome, described by Persian historians as the very perfection of youth, health and grace, and highly gifted with the fine art of singing songs in solo, Yusuf Chak fell in love with her and married her after she had divorced her peasant husband. Here was a romance something like that of the celebrated Queen Núr Jahán. Yusuf Chak was no less a pleasure-loving prince than Jahángir. He luxuriated in the spell of lovely weather at Gulmarg, Sonamarg, Ahrabal and Achhabal and on the Dal lake, his motto being:

*Ba 'aish kosh ki tá chashm mizani barham
Khizán hamirasad-o-naubahár miguzarad.*

Hasten to be merry, as within a twinkle of eye
Autumn may approach and spring may pass away.

39. Khunmuh

About five miles to the north-east of Pándrenthan, lies the village of Khunmuh, the ancient Khunamusa, famous as the birth-place of Bilhana, the poet. It contains the ruins of some old temples in the middle of small tanks found here and there which have been converted into Ziárats.

40. Miniature temple at Khrew

About three miles from Khunmuh, lies the village of Khrew, the ancient Khaduvi, where there is a monolithic temple (minia-

ture) of stone. Nothing about its antiquity is known. On the hill here is the shrine of Jwálá Ji on which a temple has been built by Dr. Bal Kishen Kaul which is reached by a long flight of hewn stone steps.

41. Ruins of temple at Pámpur

About four miles towards the south-west of Khrew is the town of Pámpur, the ancient Padmapur, founded by Padma, the powerful uncle of the puppet-king Chippata-Jayápida. Padma built here a temple, called Vishnu-Padma Svámin, of which scanty remains are now to be found. Close by is the Ziárat of Mir Muhammad Hamádani with some fine and ancient columns and ornamented slabs which are likely to have been taken from the above-mentioned temple.

42. Temples at Ladhuv

About four miles from Pámpur towards the south-east, there are two temples at Sandyásarnág, one surrounded by water and a smaller one nearby. Nothing is known about the antiquity of them.

43. Miniature temple at Kuil

Six miles from Ladhuv towards the south-west across the Jhelum at Kuil, a village at the foot of the Naunagar plateau at its northern end, there is a miniature temple cut out of one stone. Its founder and date of building are not known.

44. Payar

About two miles further on from Kuil towards the south-west at Páyar, is an ancient temple. It is in almost perfect condition, and, in intrinsic beauty and elegance of outline, is superior to all the existing remains in Kashmir of similar dimensions. Its excellent preservation is due to its retired situation and the marvellous solidity of its construction. The interior is occupied by a

large *Lingá*. The temple was built by King Narendráditya who reigned in Kashmir from 483 to 490 A.D.

45. Temple ruins at Jaubrar and Avantipura

Avantipura lies on the right bank of the Jhelum about four miles towards the east of Kuil. It was once a large city founded by King Avantivarman, who reigned in Kashmir from 855 to 883 A.D. The whole neighbourhood is filled with ruins, but the only traces of its former greatness are the two temples which he founded, one before, and the other and larger one, after, his accession to the throne. Both were dedicated to Mahádeva, the former under the title of Avanti-svámi and the latter under that of Avantishvara. These two temples are situated on the bank of the river, one at Avantipura and the other about a mile to the north near the village of Jaubrár. They dazzle the visitor with their sumptuousness, magnificence and grandeur.

46. Temple of Narasthan

At Narasthán about ten miles north-east of Avantipura, are the ruins of a temple. The situation overlooking the narrow valley is picturesque, and behind it the ground is sloping up towards the lofty mountains. Nothing is known as to who built it and when it was constructed.

47. Mughal Garden at Bijbihara

Ten and half miles from Avantipura to the south, lies the town of Bijbihára. Here on both sides of the river is the garden of Dára Shikuh, in which there are magnificent Chenárs. One Chenar is so thick that its trunk measures 54 feet in circumference at the ground level. The two portions of the garden were once united by a bridge, the ruins of which are still found.

48. Ruins at Lokabhavana

Twelve and half miles from Bijbihára towards the south, is the

village Lokabhavana, now called Láríkpura. King Lalitáditya (699-736 A.D.) built a town here. There are several ruins and a spring at this place and a small garden pavilion erected by Aurangzeb near the spring.

49. Verinag

Nine and half miles from Láríkpura to the south, lies Verinág, a village at the foot of the Pir Panjál pass. It is famous for its spring. The water issues from the north-eastern side of a high and well-wooded hill and is received into an octagonal stone basin, 10 feet deep, which was constructed by Jahángir in 1612 A.D. The fine garden, with fountains, aqueducts, and a cascade, in front of the spring, was laid out by Sháh Jahán about 1619 A.D.

50. Temple and Spring at Kuthar

About ten miles from Verinág in the Arapath valley, there is a spring called Pápashodhan Nág near the village Kuthár, round which are still to be found some remains of the enclosure erected by King Bhoja of Málva (during Ananta's time, 1028-63 A.D.). The tank of the spring was constructed by a Rája of the Deccan, named Matshakund, who, according to a legend, had ears like those of a buffalo which he got rid of by bathing in this spring.

51. Achhabal

About four miles to the south-west of Pápashodhan spring, lies Achhabal, the ancient Akshavala, founded by King Aksha which, when originally founded by King Aksha who reigned in Kashmir from 486 to 426 B.C., was a large town.

The place is noted for its spring, which is the finest in Kashmir and supposed to be the re-appearance of a portion of the river Bringhi whose water suddenly disappears through a large fissure underneath a hill at the village Divalgam in Brang. It is said once, in order to test this, a quantity of chaff was thrown in the Bringhi river at the place its water disappears at Divalgám and that chaff came out of the Achhabal spring.

The water of the spring issues from several places near the foot of a low spur called Sosanwár, which is densely covered with deodars, and at one place it gushes out from an oblique fissure, large enough to admit a man's body, and forms a volume some 18 inches high and about a foot in diameter. It comes out as if it remounted from the bottom of a well with violence and boiling.

In 1640 A.D., Jahánára Pádsháh Begum, daughter of Sháh Jahán and Mumtaz-i-Mahal, finding here the most splendid opportunity afforded for man's hand to lend help to Nature, laid out a garden at this place, calling it Begamábád. It was also called Sáhibah-ábád. It may be stated here that it was this lady who was severely injured by her dress catching fire in 1644 A.D. and was cured under the treatment of Dr. Gabriel Boughton at Agra who got as his fee from the Emperor the right for his countrymen to trade free of customs and other duties in Bengal.

The Achhabal garden is 467 feet long and 45 feet broad and is surrounded by a stone wall and divided into two portions. It contains many fruit trees and some very large Chenárs, and the ruins of a Hamam (Turkish bath) and other buildings. The water of the spring flows through the garden which is traversed by three canals; the central one about 16 feet wide and one on each side, about $6\frac{1}{2}$ feet wide. Along the central canal there are two large tanks; the upper one is 188 feet long and 74 feet broad and contains in its centre a wooden pavilion which is about 18 feet square and rests upon a platform of masonry; and the lower tank is about 80 feet square. There are three waterfalls in the upper part of the garden, one on each canal, and the largest is the middle one, which is twelve feet high and about eight feet broad. There are also three waterfalls outside the lower end of the garden, one on each canal and the largest is the middle one, which is eight feet high and about six feet wide. The tanks and canals are lined with stone and abound with fish, and a large number of fountains are erected in them.

Trout-culture has lately been started here.

52. Martand Temple

Four miles to the north of Achhabal on the plateau, is situated

the most impressive and the grandest ancient ruins in Kashmir. This temple, called Martandeshvara, is said to have been built by King Rámadeva (3005—2936 B.C.) with large, ornamented and beautifully carved stones, erecting it to the height of 50 yards. It is rectangular in shape. Some stones of this temple are six to nine feet in length and it is surprising how they were brought here and piled up.

There are ruins of a quadrangle and rectangular colonnade round the temple, having on all its sides niches and a row of octagonal pillars which give to the whole a complexity which never fails to strike the beholder with astonishment and awe. This colonnade was, it is said, erected by Lalitáditya (697—734 A.D.). Rámadeva had founded a large city on this plateau which was called Bábul, and the present Mártand canal whose ancient name was Váhni had been originally brought here by him. Several pillars of the colonnade are still standing and between each are trefoiled niches, while the capitals of the larger pillars are richly carved and ornamented, their shafts, which are grooved rather than fluted, being also surmounted by an ornamented neck of beads. The facade of the building, which stands in the interior, is abreast of the gates of either colonnade and one-third of the whole length of the quadrangle intervenes between it and the front gate which faces to the west, a bank of stones occupying the place where there was originally a flight of steps leading to the doorway. Both sides of the doorway on the front are carved, being miniature representations of those in the interior; but they are so much injured by time as to be scarcely perceptible, except when the sun brings them out with a strong shadow. The interior is divided into two compartments; that at the entrance is nine yards in length, and at the western end is in an inner chamber or crypt five yards long, surrounded by blank walls, but open like the other to the face of day, all semblance of a roof having long since disappeared beneath the shocks of earthquakes and the unsparing hand of Sikandar But-Shikan.

In the centre of either side of the larger anterior chamber is a window reaching to the floor, and about eight feet in height. The walls, thus divided quarterly, are filled up with

single figures in relief, two of the sun and two of the Goddess of Wealth, one in each panel. The building was apparently two storeys high and judging from other ruins in the Valley, the upper part was certainly pyramidal, and the whole fabric must have been of considerable height; for its present height of 40 feet or so has been diminished by earthquakes. Perhaps the only unaccountable parts of the ruins are two side buildings like detached wings, sculptured with figures of the same character as those inside the building; but most probably these were merely ornamental, and joined by a flying buttress to the upper part of the centre building.

55. Mattan

About $1\frac{1}{2}$ mile from the Mártand temple towards the north below the plateau, is the Mattan or Bhavan spring. It is a famous Hindu pilgrimage where, during certain months in each Hindu leap year, pilgrims perform *Shráddha* of their deceased relations. A garden was laid out in front of this spring by Asaf Jáh by order of Sháh Jahán.

54. Temples at Bumzu

The caves of Bumzu are situated on the left bank of the Liddar river about a mile north of Mattan. One cave is interminable and in it, after passing a passage 50 feet in length, one reaches the door of the temple. About 20 feet from the entrance there is a low and narrow passage leading off to the left and about 60 feet beyond it on the same side is a small and circular chamber.

Another cave is in the same mountain about three minutes' walk further on. Its entrance is about 100 feet above the ground. There is a stone temple in it.

Just below this cave is a stone temple built by Bhima Sháhi, king of Kabul, the maternal grandfather of Queen Didda in the lifetime of her husband, Kshemagupta, which is plastered with earth and converted into the Ziárat of Bábá Bámdin, a Muham-madan saint. Another temple close by has been turned into the tomb of Rukh Din Reshi, disciple of Bábá Bámdin.

55. Temple at Mamal

Going further up in the Liddar valley on the other side of the river, opposite the Pahalgám camping ground, are found the ruins of a small temple with a stone lined tank in front. Its builder is unknown.

56. Ruins at Sangam near Amburher

Returning to Srinagar, if one goes by road to the Sindh valley, he will find, at a distance of $6\frac{1}{4}$ miles from Srinagar, a village, called Amburher. Queen Suryamati (1028-86 A.D.) founded two *Mathas* here. Ruins of old temples scattered here and there are found at this place.

57. Ilahi Bagh

Near Bachhpura village there is an old Chenár garden called Iláhi Bágh, which was planted by Jahángir, who, together with his Queen Núr Jahán, used to visit it on clear moonlit nights in a small boat which was towed up through the Buta Kadal Nullah by only female servants, the jingles on whose feet made a sweet music.

The chronogram of the laying out of this garden, viz., 1050 Hijra (1639 A.D.) is to be got from Bágh Iláhi in the following Persian couplet:

Falak áshufta búd azbahr-i-sálash
Malak guftá bigu Bágha Iláhi.

Heaven was puzzled for its year,
The Angel said "Say, the Divine Garden."

58. Ruined Temple at Thiun

At a village called Thiun, in the Sindh valley, there are ruins of an ancient temple whose founder is not known.

59. Ruins of Temples at Naran Nag

At Nárán Nág in the Sindh valley, 30 miles from Srinagar, there are some ruined temples. They are in two groups situated at a distance of 200 yards from each other and consist of six and eleven buildings respectively. King Jalauka (139-34 B.C.), King Narendráditya Khinkhila (308-272 B.C.) and King Lalitaditya Mukhtapida (697-734 A.D.) each, erected a temple here.

60. Tulamulla

On the return journey if one goes from Gándarbal ($17\frac{3}{4}$ miles from Nárán Nág) to Tulamulla, about three miles towards the west, he will find there the spring which is the most popular pilgrimage of the Hindus. Its water changes colour every now and then being sometimes pink, sometimes green and so on. In its centre was an ancient temple built of large slabs of dressed white stones, whose builder's name is unknown. That temple had tumbled down. The late Mahárāja Pratáp Singh got the old stones built into a platform on the original site in the centre of the spring and erected a small temple of white marble on this platform.

61. Ruins at Paraspura

About five miles to the west of Tulamulla, lies the plateau of Paraspura, called Pariháspura in olden times. A city had been founded here by Lalitáditya, in which many temples were erected. Of these there remains now only a confused mass of huge blocks of stones. A century and a half after Lalitáditya's death, King Shankara-Varman used some of the materials of these temples in building his own at Pattan. King Harsha (1089-1101 A.D.) spoliated them of silver images, and Sikanpar finally destroyed them.

62. Ruins at Andarkot

About three miles from Paraspur towards the north, lies the village Andarkot. There are ruins of ancient temples here which were built by King Jayápida (753-84 A.D.) whose capital was at this place.

63. Miniature temple at Manasbal

Further on from Andarkot at the south-eastern corner of the Mánasbal lake, is a miniature temple built of stones standing in the water. Nothing is known of the history of this temple.

64. Suna-Lank

About 15 miles down the river Jhelum from Mánasbal, is a small island in the Wular lake. It was raised and shaped by Zain-ul-ábidin in 1421 A.D. with the object that boats, caught in sudden gales of wind in the lake, might get a mooring place here and be saved from being swamped. It is said that there existed a ruined temple under water here on the top of which Zain-ul-ábidin raised this island. The words *khurram bád* in the following Persian couplet give the chronogram, viz., 847 Hijra (1443 A.D.):

*In buqa chu bunyád-i-falak mahkam bád
Mashhúr ba Zaina Dab dar álam bad
Sháh Zainulábdín tá ki daro jashn kunad
Paiwasta chu tárikha khudash khurram bád.*

May this place endure like the foundation of heaven !
Be known to the world by the name of Zaina Dab !
So that Zain-ul-ábidin may hold festivities therein,
May it ever be pleasant like his own date !

65. Ruins at Firozpur

About 1½ mile above the bridge over the stream below Gulmarg

at a village called Drang, there are ruins of an ancient temple. Nothing is known about the old history of these ruins. The word "Drang" signifies a watch station established near mountain passes for guarding the approaches to the Valley. This Drang might have been built to watch the approaches by the Firozpur Nullah.

Jammu Division

I

DESCRIPTIVE

The Jammu province embraces the hilly country extending down to the plains of the Punjáb from the snowy range of mountains bounding Kashmir on the south. The area is more than double of Kashmir province, viz., 12,165 square miles and consists of three divisions which are: 1. Dogar. 2. Chibál. 3. Pahár.

In olden times the area situate between *Do-garths* or two lakes, namely, Mánsar ($\frac{1}{2} \times \frac{3}{4}$ mile) and Saruinsar ($\frac{1}{4} \times \frac{1}{2}$ mile) in the Sámba tehsil, was called Do-garth which has, in course of time, been shortened into Dogar, and the people living in this area were called Dogras. Now, roughly speaking, the whole tract between Chenáb and Rávi to the south of the Karáhi Dhár hills down to the British border is called Dogar.

The area between the Chenáb and Jhelum to the south of Káli Dhár hills down to the line of British border is called Chibál or the land of Chibs, a Muhammadan tribe who formed several independent principalities in this area before Maharája Guláb Singh subdued them.

The rest of the province to the north is called Pahár or hilly tracts, and the inhabitants thereof are called Paháris.

The population of the province is 1,640,259 (male 859,619 and female 780,640), of whom Muhammadans number 989,644, Hindus 626,806, Sikhs 21,627, Buddhists 442 and other religionists 1,740.¹

The notable places in the province, in addition to the towns mentioned elsewhere, are:

1. Purmandal, 16 miles to the east of Jammu, where there are several temples built by Mahārāja Ranbir Singh.
2. Vaishnau or Trikata Devi on a mountain in the Riási tehsil, 39 miles to the north of Jammu. This is a shrine of the Hindus where pilgrims in large numbers, not only from Jammu but also from distant parts of the Punjáb, go during the months of Asuj and Kátak. Katra is the name of the village wherefrom the ascent to the mountain commences and where the pilgrims stay both before and after visiting the shrine.
3. Blaur, 19 miles to the north-west of Basohli. It was the capital of a Hindu principality. There is an ancient temple there which is now almost in ruins. It is not known who built it, nor when it was constructed.
4. Tredh on the Birun Nullah near Kirmichi, four miles from Udhampur. Ruins of old temples are to be found here.
5. Near Batot, the fourth stage from Jammu on the Bánihál road, is an extensive meadow on the top of the adjacent hill which is called Ladheki-dhár and which is much frequented by herdsmen in summer with their herds, for pasture. A delightful view of the plains of the Punjáb towards the west and south and of lofty mountains towards the east and west can be obtained from here.
6. Shudh Mahádev above Chineni. A large annual fair is held here by the Hindus on the 15th day of the bright fortnight of Hár (June-July).
7. Gajpat: This is the name of a fort built on the top of a

¹ The population of Jammu Division (formerly known as Jammu Province) according to the census of 1971 was: 2,077,243 (male: 1,086,219 and female: 991,024). Of these—were Muhammadans,—Hindus,—Sikhs,—Buddhists and—other religions.

grim isolated hill overhanging the Chenáb river between Batot and Rámban. Political or refractory prisoners used to be detained here, but now it is in a dilapidated condition.

8. **Ramban:** It is a stage on the Báníhál road, midway between Jammu and Kashmir. The Chenáb is here crossed by a suspension bridge built in 1888 A.D.
9. **Doda** between Kishtwár and Rámban, 24 miles towards the east of Batot on the Báníhál road. Poppy is extensively cultivated here and in Kishtwár, which is a source of considerable income to the Zamindárs. Opium required for consumption in the whole State is supplied from here. This part of the country being mountainous, black bears, leopards and other big game are to be found here in considerable numbers.
10. **Sarthal**, five miles from Kishtwár. There is a shrine of Hindus here which is visited by pilgrims from far and near.
11. **Pádar:** This place was taken from Chamba by the troops of Mahárája Guláb Singh under General Zoráwar in 1844 A.D. It is noted for the mine of sapphires. There is also a hot water spring here. Plenty of big game are obtainable in the forests here.
12. **Mangaldev, Kángra, Mangla and Taroch.** These are the well-known forts, the first two in the Bhimber tehsil and the other two in the Mirpur tehsil.
13. **Káhnachak:** This village is situated on one of the branch streams of the Chenáb, 12 miles from Jammu, and is noted for the manufacture of lacquer work. Nearby, is the village Chhari where the shrine of Bábá Jetu is situated and where a fair is annually held on the 15th day of the bright fortnight of Magar (October-November) at which thousands of people assemble. A cattle fair is also held here on that occasion.
14. **Báníhál or Devgol** in the Rámban tehsil, Jasrota in the Kathua tehsil, Hiránagar in the Jasmergarh tehsil, Manáwar in the Akhnur tehsil, Ranbirsinghpura or Naváshahr and Bishnah in the Ranbirsinghpura tehsil,

Padu in the Basohli Tehsil and Nau Shahra and Thana in the Rámpur-Rajouri tehsil are centres of trade.

II

JAMMU CITY

The Jammu city is the second capital of the State where His Highness the Mahárāja resides in winter. It is 1,250 feet above the sea-level and is situated on a slope just above the right bank of the Tawi river. This river, by the way, has its source in the Kaplas mountains above Chineni, and falls into the Chenáb about ten miles to the west of Jammu.

It is said that Jámawant, one of the warriors in Ráma's army, used to practise austere penances here in a cave which exists even up to now near Pirkhuh, and Jammu was called after his name. The Jammu Ráj, according to its family legend, traces its descent to a scion of the solar dynasty, named Agni Giris who, in olden days, came over from Ajudhya. His seventh descendant, Jambu Lochan, laid the foundation of the Jammu city. He was succeeded by his son, Puran Karn. Puran Karn had two sons, named Daya Karn and Dharm Karn. The former conquered Kashmir and ruled over it. The sovereignty thus established over Kashmir continued in his line for 55 generations.

About the middle of the eighteenth century, Rája Ranjit Deo, son of Rája Dhrub Deo, ruled over Jammu. He was a man of considerable mark but after his death about 1780 A.D., his three sons quarrelled among themselves. This led the Sikhs to invade Jammu. Thenceforth up to 1846 A.D., Jammu became subject to the Sikh power. Ranjit Deo had three brothers, named Kansar Deo, Balaut Singh and Surat Singh.

Mahárāja Guláb Singh was the great grandson of Surat Singh and had two brothers, Rájas Dhyán Singh and Suchet Singh. As a young man, Mahárāja Guláb Singh sought service at the court of Mahárāja Ranjit Singh. He greatly distinguished himself and subdued all the Hill States adjoining Jammu. For his eminent services he was presented by Mahárāja Ranjit Singh with the hereditary principality of Jammu, whence nominally on behalf of

Mahárāja Ranjit Singh he soon extended his authority over his Rájput neighbours, and eventually into Ladákh and Baltistán. After the first Sikh war at Sobraon, the British made over to him, by the treaty of the 9th March, 1846, all the territories he held as feudatory of the Sikhs and a week later by another treaty gave him Kashmir on payment of 75 lakhs of rupees.

After reigning for ten years and ten months Mahárāja Guláb Singh died in Kashmir on 4th September, 1857. He was succeeded by his son, General Mahárāja Ranbir Singh, G.C.S.I., who, having ruled gloriously for twenty-eight years and eight days, breathed his last at Jammu on 12th September, 1885. He was succeeded by his son, Mahárāja General Sir Pratáp Singh, G.C.S.I., G.C.I.E., G.B.E., etc., whose benign reign extended over 40 years and 1½ month, and he breathed his last at Srinagar on 23rd September, 1925, at the advanced age of 76 years. Then the present Mahárāja, General Sir Hari Singh Bahadur, K.C.I.E., K.C.V.O., etc., ascended the *gaddi*.² Pandit Mahanand Ju Shastri, a most learned Sanskrit scholar, describes this latter event in the following eloquent lines:

कश्मीरा दनुजारिपूरिति कथा संगच्छते सत्यतो
यदेतर्हि महीश्वरो हरिपदं नाकाधिपः काश्यपोम् ।
चाक्रामहरिसिंहरूपन्टपतिव्याजेन सौख्यान्यवत
आकल्पं परिवर्तनं स्थिरतरं भूयाद द्वयोः श्रेयसे ॥

“The saying Kashmir is Paradise-like” has proved to be true because no sooner has its late Ruler (Mahárāja Pratáp Singh) ascended the Hari-pad (Paradise), than Rája Hari (Indra) ascended the throne of Kashmir.

“My prayer is that, so long as the solar system lasts, this sweet exchange of their places may be happy !”

Jammu has always been an important place. The Province was divided into as many as twenty-two principalities (until they were subdued by Mahárāja Guláb Singh), but Jammu was the most powerful of them all and of placid dignity—hence the saying:

2 For constitutional changes since this was written, see the Introduction.

*Báís Rój Páhar de
Bich Jammu sardár.*

The population of the town is as follows:

Hindus	20,220	
Muhammadans	9,001	
Sikhs	708	
Other Religionists	1,577	
	<hr/>	
Total	31,506	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">[</div> <div style="display: inline-block; vertical-align: middle;"> Males 19,121 Females 12,385 </div> <div style="display: inline-block; vertical-align: middle;">]</div> </div>

The total number of houses in the town is 7,492 and its area is one square miles.

Situated as it is on the slope of a hill, Jammu has the advantage of commanding a splendid scenery of the vast plains, green with the fields of wheat and barley and rice and with clusters of mango and other evergreen trees—plains, so vast as to end in the haze of the horizon, with the Tawi and the Chenáb glistening like silver threads yonder away. It has also a natural drainage. Each rainfall flushes down the whole town clean.

The town has a large number of temples whose dazzling pinnacles, high and low, are standing like sentinels expressive of the Hindu Ráj. While travelling towards Jammu by train or otherwise, one is irresistibly struck by the distant view of the city, which, from its position on an elevation looks exquisitely grand and picturesque.

The Palace is situated on the highest point of the elevation, commanding the sight of the city stretched over the gentle slope below. It looks as if the Mahárája watches his people from the Palace as does a shepherd his fold from an elevated spot.

The Museum or Ajáib Ghar, built in 1875 for accommodating the Royal Visitor, the late King Edward VII, then Prince of Wales, is a grand bulding.³ It is now used as a recreation place, where officials and others collect in the evening and

³ This building is now occupied by the government secretariat.

indulge in amusements. A library and a reading-room are also located therein. Close to the Museum is the magnificent building of the Ranbir High School. This institution is called after the name of the late Mahárāja Ranbir Singh. The Prince of Wales College⁴ is near the Ranbir canal. It was established in 1905 to commemorate the visit of Their Majesties the King-Emperor and Queen-Empress, then Prince and Princess of Wales, to Jammu in that year. The Hospital is situated at a little distance from the Museum. The Rámnagar Palace, erected by the late Rája Sir Amar Singh, is also worth visiting. Its imposing size, its artistic design and its various types of architecture remind one of the elevated, polished and pleasant taste, and high genius of its builder. The Residency⁵ is in the south of the city. The Báhu fort, just opposite the Residency across the Tawi, is one of the notable places. The Military cantonments are at Satwári, five miles from Jammu towards the south-west. Three miles from Jammu on the Akhnur road, is the Amar Villa, a pretty house built by the late Diwán Amar Nath, C.I.E., with a beautiful garden laid out around it. On the Ranbir canal, just below Jammu to the west, 100 horse-power of electricity is generated by waterpower produced by a fall given to the canal near the place where it runs down a subterraneous passage across the Tawi river. The power is utilized for water-works in pumping up the water-supply from the river bed to the city, and in heating the water basins in the silk factory and turning the reeling machinery as well as in lighting the city of Jammu. The Tawi is crossed by a large suspension bridge. The Siálkot-Wazirábád branch Railway line was extended to this place in 1889 and since then trade has received a great impetus.⁶

4 Now renamed Mahatma Gandhi College.

5 Consequent on the abolition of the office of the Resident in Kashmir the building is now used for the residence of the Chief Minister.

6 This line ceased operation in 1947 when Pakistan came into being. Jammu is now served by a railway line extended from Pathankot. It is the nearest rail-head for Ladakh and Kashmir valley and most of the interior parts of the Jammu Division.

Frontier Disiricts

This part of the State is across the Himalayas with the Karákoram and Eastern Kiunlun mountains on its north, Tibet on its east, Kashmir and Jammu on its south and Yágistán and Chitrál on its west. The Indus flows through it. It consists of three divisions namely: (1) Ladákh or little Tibet, (2) Baltistán, called Chera Bhotun by the Kashmiris, and (3) Dárdistän. The total population is as follows:

Hindus	1,199		
Muhammadans	234,467		
Buddhists	37,241		
Sikhs	138		
Other Religionists	128		
	<hr/>		
Total	<u>273,173</u>	[Males	139,679
		Females	133,494

The total number of houses is 48,230.

The area is about twice of Jammu and Kashmir, viz., 63,560 square miles, so it is very thinly populated. The people are quite distinct from those of Jammu and Kashmir and their religion, language, manners and customs are also different.

I

LADAKH

Ladakh is bounded on the north by the Karákoram, on the east by Tibet, on the south by the the Himalayas and on the west by Baltistán. It comprises a vast area in which are the following sub-divisions: Rukshuk, Zanskár, Lubra, Leh, Drás, and Kargil.

Leh is the most important place, it being an entrepot for trade between India on the south and of Yárkand, Khotan and Tibet on the north and east. A big bazár is held here in September every year when the caravans from Turkistán, Siberia and Tibet and the distant parts of Central Asia come to barter their goods with those brought during the summer by traders from Kashmir and different parts of India. A British Commissioner stays here in summer.

There are vast deserts in Ladakh, such as Lingzhithang (16,000 feet) and Kiunlun (17,000 feet). The height of the mountains ranges from 17,000 to 21,000 feet, and there are certain peaks which are over 25,000 feet. No place in this area is less than 9,000 feet above the sea, and the mountains are arid with no signs of greenery thereon. Firewood is nowhere to be found except in nullahs where willows and poplars grow. The chief articles of produce are wheat, barley and *grim*.

There is practically no rainfall. The seasons are only two—summer and winter. In summer the days are warm but the nights cold, so cold that water freezes sometimes. The winter is exceedingly cold, though snow falls very rarely. The fruits grow in comparatively hot places.

The Ladakhis are divided into four principal castes, namely, (1) Gyápo or Rája, (2) Jirak or officials, (3) Mungrik or cultivators, and (4) Ringan or menials. The majority are cultivators.

The Yárkandis and a mongrel race of Arghons as they are called—the half-caste offspring of Musalmán Turki caravan drivers who enter into temporary marriage with Ladákhi Buddhist women—and the Muhammadan inhabitants of Purik or Kargil are traders.

There is a kind of *Nil gai*, called Zoh and it is used for drawing the plough. Deer, Kels and goats which yield sháwl wool, rabbits, wolves or *shankus* as they are called by the Ladakhis and *chikors* abound. There are hot springs in the *illāqa* of Lubra.

There is a tribe, called Changpa, in the *illāqa* of Rukshuk, who are nomads. Except at Kargil or Purik, where there are Muhammadan inhabitants, the people generally profess Buddhism, among whom the custom of polyandry is common. It forms a check on population. The eldest brother's wife is the joint wife of his two younger brothers next to himself in age. These two brothers are called Farsukhs or minor husbands. If there are more than three brothers, the others become *Magpas*.

It is not obligatory on a Ladákhi woman to become joint wife of a man and his two younger brothers. She sometimes enters into a periodical marriage contract with a man and this man is called *Magpa*.

There are numerous Buddhist monasteries or temples called Gunpas. These Gunpas are rich with gold worth, in some cases, lakhs of rupees. The most famous Gunpa is Hemis, 18 miles to the south of Leh. Almost every family offers a boy or a girl for worshipping in the Gunpas. The boys and girls are called Lámas and Chomos respectively. There are three chief Lámas in Ladákh who are called Kushks and who are held in great veneration by the people and they are in charge of important Gunpas. All these Lámas or Chomos are followers of the Great Láma of Lhása.

The Buddhists wear on their heads long tufts of hair reaching down to their loins on the back. A kind of intoxicating liquor made of *grin*, which is called *chhang* is commonly used by the people. The people are short statured, men being generally 5' 2" and women 4' 8".

Formerly this country was a part of Tibet under a governor called Gyápu, but in 1539 A.D. it was invaded by Sultán Sayid

of Yárkand and then in 1685 A.D. by Kalmákun. The Muhammadan Rájas of Skardu took possession of this country twice, viz., in 1620 and 1720-50 A.D.

About the middle of the seventeenth century, the king of Western Tibet was at war with Chinese Tibet and he asked help from the Mughal Emperor Sháh Jahán. Sháh Jahán sent an army from Kashmir which crossed the Indus at Khalatze on two wooden bridges and marched to Bazgu village. The Mughals, who had taken up their position on the plain of Jargyal between Bazgu and Nemo, were defeated after a fierce battle. In return for this aid, the king of Ladákh promised to give Kashmir the monopoly of the shawl wool trade. But soon after the Mughals returned to Kashmir, the Mongols again came on and then the king of Ladákh had to submit and pay a yearly tribute to Chinese Tibet.

In 1834 A.D. Mahárája Guláb Singh sent a force under Wazir Zoráwar to invade Ladákh. They had a skirmish at the Pashkyum valley with the Ladakhis and defeated them. Mustering an army of 15,000, the Ladakhis again marched down to attack the Dogras near Langkartse, between Kargil and Suru, but, on the approach of the Dogras, they fled again, losing 400 of their number who fell through a snow bridge and were drowned and 200 who were made prisoners including their General. The Ladakhis then retreated to Moulbe and afterwards to Leh, being pursued by the Dogras. The king of Ladákh then submitted, agreeing to pay a war indemnity of Rs. 50,000 and a yearly tribute of Rs. 20,000.

While the Dogra troops were engaged in these operations, the chief of Sod attacked and seized a Dogra fort at Suru. On hearing this Wazir Zoráwar marched there and re-took the fort, putting the enemy to the sword. He offered a reward of Rs. 50 for each person who had joined the force of the chief of Sod, 200 were surrendered and he beheaded them all.

In 1841 A.D., Wazir Zoráwar was deputed by Mahárája Guláb Singh from Jammu with 12,000 troops towards Lhása. Having proceeded twelve marches, he reached Guhrak, which is situated on the border of Lhása, where he fought a battle with the Lhása troops and defeated them. He then returned to Mántaláv, taking the forts of Gurhang and Purang by storm.

Soon after, Lhása troops came back under Achhinjut and re-took the possession of the Gurhang fort. A fierce battle was fought in which Wazir Zoráwar with all his troops was killed, only 25 soldiers having survived to tell the dismal tale. The Lhása troops advanced to Ladákh. Mahárája Guláb Singh then sent a punitive force of 6,000 strong under the command of Diwán Hari Chand and Wazir Ratnu. They had a skirmish with the enemy at Kargil in which 300 of the latter were killed and more than 3,000 were drowned in the river there. The Mahárája's troops then marched on to Leh, wherefrom one thousand soldiers of the enemy, under Bakhshi Achhinjut and Karan Sháh, retreated but concentrated themselves at the Chamrah Gunpa. Diwán Hari Chand laid siege to it and shelled it with guns stationed at a height overlooking the Gunpa, and also cut off its water-supply. The result was that the enemy surrendered unconditionally. Achhinjut and Karan Sháh were taken prisoners and brought to Leh, but after nine days escaped. The Diwán's troops pursued and overtook them and fought with them, in which 100 of the enemy were killed and 400 were taken prisoners.

Soon after, Bakhshi Achhinjut with 6,000 troops and one gun made another attack and then entrenched at 30 miles from Leh. The Diwán besieged them for eight days and flooded them by cutting a stream flowing above the place they were entrenched at and then they surrendered. Bakhshi Achhinjut and Karan Sháh were taken prisoners and brought to Srinagar before Mahárája Guláb Singh who had come from Jammu and was encamped at Nasim Bágh. The Mahárája pardoned them and set them free to go to their own country, concluding a treaty of peace with Lhása in September 1842 according to which Ladákh came permanently under Jammu, and traders of Ladakh and Lhása got the reciprocal concession of conducting trade freely in both the countries.

II

BALTISTAN

Baltistán or Skardu extends on both sides of the Indus for 150

miles. It is bounded on the north by the Karákoram mountains, on the east by Ladákh, on the south by the Himalayas and on the west by Dárdistán. There are very high mountains and side valleys in this country. The valley of Shiyok and the *illáqas* of Shigar and Skardu are well populated. Its subdivisions are Kharmang, Khaplu, Shigar, Skardu, and Rondu. Shigar is a fertile part of the country. Khaplu is situated in the southern valley of the Shiyok.

The people are of the same stock as Ladákhis; but by marrying with the Dáreds, who are the inhabitants of Gilgit, their features, etc., have undergone considerable change. They are Muhammadans of the Shia and Núrbakhshi sects. Here the other extreme of the custom prevailing in Ladákh, namely, polygamy, is common.

The cultivable land is very little, hence the people migrate every year in search of labour to Kashmir, Simla and other hilly countries. They are hard working and cheerful labourers. There are people of the Dárd tribe inhabiting high lands in Drás who are called Baropá or hillmen and they talk in a different tongue called Shina.

The climate is like that of Kashmir. The fruits are very sweet, specially grapes, melons and apricots. Caraway seeds are plentiful. The river is crossed in boats made of hides which are called Zak. Wherever the river is narrow it is crossed by rope bridges. There are several hot springs and also several glaciers of which the glacier of Baltoru is, except the ice-bound oceans of Arctic regions, the greatest in the world.

The people were Sunnis before, but in 1493 A.D. they were converted to Shias and Núrbakhshis by Mir Shamas Iráqi. The Rájas of the place are said to be the descendants of Sikandar of Káshgar. They were in olden days under the suzerainty of the kings of Kashmir, but in the time of Chaks they were independent. During the Mughal period they were once more tributaries to Kashmir but when Afgháns came, they were again independent. In 1837 A.D. Rája Ahmad Sháh was the chief of the place. His second son, Muhammad Sháh, had revolted against him and had gone to Colonel Mian Singh, a Sikh governor of Kashmir, who had given him Tilel as *Jágir*. When Wazir Zoráwar invaded Ladákh, Muhammad Sháh started to assist him, but Ahmad Sháh sent his men after his son and having caught him, took him to

Skardu where he was detained as a prisoner. Thereupon Wazir Zorwáar was enraged and he marched with his troops to Skardu and conquered it. The place was, however, restored to Ahmad Shah on his paying a heavy war indemnity. When Wazir Zoráwar was killed at Mántaláv, the Rája of Skardu rebelled again and then Mahárája Guláb Singh despatched a punitive force there to punish him and Diwán Hari Chand also attacked Skardu from Ladákh side. Skardu was seized, Ahmad Sháh with all his family being sent to Jammu as prisoner, where he afterwards died. His son, Muhammad Sháh, was granted an allowance by the Mahárája at Skardu.

III

DARDISTAN

Dárdistán is bounded on the north by the Karákoram and Hindukush mountains and Pámir; on the east by Baltistán, on the west by Yágistán; and on the south by Kashmir. The following are its subdivisions:

Astor, Bunji, Chilás, Gilgit, Hunza, Nagar, Puniál and Yásin and Chitrál.

Gilgit is a very important place owing to its being situated on the frontier. There is a British Political Agency here. The inhabitants of Dárdistán are called Gilchas and Dárds and are believed to be the descendants of Aryans. Their features somewhat resemble those of the Kashmiris, but they wear a crafty look. They are hardy, brave and tall, and some are fair-complexioned and good-looking. The Indus flows for 150 miles through this country, draining the water of the northern and southern mountains. The rainfall is slight. In the northern tracts, apricots, walnuts, poplars, willows, etc., and nearly all the fruits of Kashmir are to be found, especially in Hunza and Nagar where they are very sweet and delicious. The area from Astor to Gilgit is as hot as the Punjáb. Grass and timber are scarce. In the *illáqa* of Astor a kind of plant of asafoetida is to be found. Small fields of corn are met with in the neighbourhood of villages. The chief agricultural products are wheat, barley or *grim* and Indian corn.

The Káfiristán, which is now a province of Afghánistán, originally belonged to Dárdistán. The people of Gilgit are Muhammadans of both Shia and Sunni sects. The people of Nagar are Muhammdands of the Shia sect; and those of Hunza of the Ali-Iláhi, i.e. believers in Ali as God, and the others are Mulahis. The Chiefs of Gilgit, living as they were in mountain fastnesses, were in olden days notorious for carrying on raids into the countries of their neighbours with impunity. In the time of Mughals, Gilgit was under the suzerainty of Kashmir, but when the Afgháns appeared, it became independent. Several neighbouring chiefs took it one after the other, but no sooner one occupied it he was killed by his rival. During the Sikh period, Muhammad Khán was its ruler and suddenly one day Sulemán Sháh, Chief of Yásin, raided and took the State. Soon after, Azád Khán, Chief of Punial, attacked and murdered Suleman Sháh and declared himself the master of the State. He had not long to wait when Tibár Khan, Chief of Nagar, came and killed Azád Khán. Tibar Khán ruled for some time, and when he died he was succeeded by his son, Sikandar Khán. The latter was killed by Gauhar Amán, son of Sulemán Sháh, who then usurped the throne.

In 1842 A.D., Karim Khán, brother of Sikandar Khán, sought the assistance of Gulám Mohi-ud-din, a Sikh governor of Kashmir, against his enemy. The latter sent troops under Nathu Sháh and Mathra Dás to Gilgit. Gauhar Amán fled precipitately to Punial after being defeated by the Kashmir troops. Karim Khán then assumed the sovereignty of Gilgit. Nathu Sháh remained there with him to see that he was not again molested and Mathra Dás returned to Kashmir. Nathu Sháh managed to make friendship with the different neighbouring chiefs. He married the daughter of Gauhar Amán to himself and the daughter of Hunza and Nagar Chiefs to his sons.

In 1845 when the break-up of the Sikh rule occurred, Nathu Shah came to, and sought service of, Mahárája Guláb Singh who appointed him as governor of Gilgit and two European officers accompanied him there. The Chief of Hunza got jealous of him for his bringing European officers, and killed him together with Karim Khán. Gauhar Amán, the Chief of Punial and Yásin, invaded Gilgit with the assistance of the

people of Dalel. Mahárāja Guláb Singh then sent troops from Kashmir which were reinforced by those stationed at Astor and Skardu, and they defeated Gauhar Amán. Bhup Singh and Sant Singh were the Mahárāja's officers commanding the garrison, who governed these parts for some time peacefully but afterwards the sons of Gauhar Amán, named Mulk Amán, Mir-Wali, Mir-Gházi, and Pahalwán Bahádur, being assisted by Dárds and Hunza people, held Bhup Singh into an ambushade at the Niladár hill and massacred 1,100 of his troops and took 200 soldiers as prisoners who were sold as slaves after forcibly converting them to Islam. Only one woman escaped, crossing the Indus by holding the tail of a cow swimming across the river and reached Bunji to tell this horrible tale. Gauhar Amán was again the sole master of Gilgit. After the death of Gauhar Amán in 1856 A.D., Mahárāja Ranbir Singh deputed General Devi Singh with a large force to reconquer Gilgit. The enemy fled away before this force and General Devi Singh occupied the district as far as Yásin. He then returned, keeping Uzmat Sháh, son of Sulemán Sháh, and Isá Bahádur, as governors of Yásin and Puniál respectively.

In 1859 A.D., Mulk Amán revolted again and then Mahárāja Ranbir Singh despatched a punitive force under the command of General Hushiára to punish him. Thereupon he retreated to Chitrál, and Gilgit was permanently annexed to Kashmir.

Chilás and Dalel were taken by the Mahárāja's troops in 1851 and 1866 respectively.

Yásin was taken in 1859 but was subsequently ceded to the sons of Gauhar Amán, with whom a treaty of peace was concluded.

The Chiefs of Hunza and Nagar, though tributary to Kashmir, often gave trouble to the Mahárāja's garrison at Gilgit, but in December 1891, these two principalities were subjugated by British Indian and Kashmir Imperial Service Troops under the command of Colonel A. Durand, the then British Political Agent of Gilgit.

The population of these frontier principalities, according to the census of 1921, is as below:

Nagar	14,188
Chilás	13,135
Hunza	12,117
Yásin	7,065
Punniál	5,492
Ghizar	3,953
Ishkoman	2,753
Kuh	2,288

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